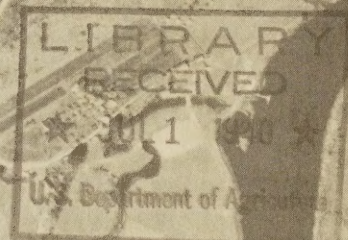


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AN AREA PLAN FOR LAND USE

CLATSOP COUNTY OREGON



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UNITED STATES DEPARTMENT OF AGRICULTURE
Bureau of Agricultural Economics

WITH COOPERATION-WORK PROJECTS ADMINISTRATION-PROJECT OP-65-94-1230

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FOREWARD

In view of present economic conditions and available physical data, the Clatsop County Land Use Committee believes that the area plan for land use in Clatsop County is a sound basis for use and conservation of the county's resources. However, in carrying out this land use plan it is recognized that changing conditions, which occur in any future, may materially change the land use program. Among the things which could materially alter the area plan are: change in population in the State as a whole, destructive fires covering large areas, introduction of new grasses and legumes, discovery of new methods and improved management through research, changes in the price levels, change of State or National policy with reference to either land use or timber lands, and the taxation problem.

Change in Population. Conceivably the population of both the State of Oregon and Clatsop County may change materially. Present indications are that population will increase in both. As the population increases and local markets are expanded, lands that were formerly considered of minor economic value from the agricultural standpoint may change their position. Looking into the future, these changes in population seem likely to bring about changes in land use in this area.

Destructive Forest Fires Over Large Areas. Experience last year indicates that land that now may be classified as covered with second-growth timber or adapted to that purpose may change on very short notice because of destructive forest fires over large areas. These fires may destroy all the possible source of seed supply for reforesting the land; the fire itself may create a desirable seed bed for grasses and legumes. Should this occur on land classified for the growing of timber, the recommendation should be changed to accommodate the changes that have taken place in covering on the land.

Introduction of New Grasses and Legumes. There is good reason to believe that there exists at present, or there may be produced through hybridization of grasses and legumes, new strains that will thrive and maintain themselves on lands that now apparently have little economic value and so are classified as timber lands. For example, the introduction of Chowings Fescue into fern land apparently opens the way for reclaiming large areas of this type of land for economic use, whereas formerly it was difficult if not impossible to establish any grass on areas growing ferns unless the land were plowed or cultivated. There is indication now that some of the grasses and legumes being tested will definitely retard the establishment of ferns, brush, and trees.

Discovery of New Methods and Improved Management Through Research. As has happened in other branches of agriculture, the perfection of improved methods of handling and managing the land may make it advisable at some future date to change the classification of land. For instance, the introduction of electric fencing made it possible to introduce controlled grazing where other type of fencing was prohibitive from a cost standpoint and where such grazing made it possible to maintain stands of grasses and clovers over long periods.

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Changes in the Price Levels. If the prices of the products that would normally be produced from this type of land would advance in price through improved demand or through inflation of prices, large areas conceivably would be put into production, although that would not be attempted when the prices are on a much lower plane.

Change of State or National Policy with Reference to Either Land Use or Timber Lands. At present, there is no established policy in our county, State, or National Government with reference to this type of land. If large areas are to be put into timber, there is no agreement as to how large they should be and how they should be protected. If lands set aside for reforestation do not reforest naturally within a reasonable time, no means has yet been provided for the artificial propagation of trees on these areas. Under certain conditions sound public policy might expand the timber acreage. At other times the reverse might be true. It seems to us that some policy should be established for public guidance in these matters. The continual substitution for wood products of other materials also raises the question as to how much of the acreage should remain in timber. On the other hand, the over-production of some of our agricultural products raises the same question.

The Taxation Problem. The taxation problem is ever-present; most of the time it is acute. Even though it might be desirable to put the land to a specific use as recommended, urgency of the tax problem may make it desirable to put the land to other use which would yield tax revenue at a different rate and at an earlier date. An essential problem in growing a second crop of timber is taxation.

We wish here again to call attention to our conclusion that if large areas of this land are to be put into timber, and this would apply in any part of Clatsop County, then in order to protect the second growth of timber these timbered areas must be surrounded by open country -- that is grazed to provide effective fire-breaks, should a destructive fire begin in any of the areas. It is inconceivable to us that extremely large areas should be maintained in solid stands of timber with any hope of carrying this timber through to harvest unless it is so protected. Annually there are periods when the fire hazard is great in any part of Clatsop County. There are periods in each decade when rainfall, humidity, and air-current conditions are such that a very large fire could spread over most of the county. As the land is settled, more roads are built, and population increases, the possibility of fire increases correspondingly.

Because of the conditions above enumerated, it would seem to us that the policy in land classification would be one that should be re-examined and readjusted from time to time as the forces of these changes become apparent, with corresponding reclassification of the lands.

AN AREA PLAN FOR LAND USE, CLATSOP COUNTY, OREGON

by Vernon W. Baker, Assistant Agricultural Economist 1/

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SUMMARY

The purpose of the study here reported has been to bring about a better understanding by local people of land use problems in Clatsop County through an analysis and correlation of basic factors influencing the major uses of the land. The study was made in close cooperation with the Clatsop County Land Use Committee and representatives of various agencies interested in the land-use problems of the county. It is hoped that this report will be of continued assistance to local, State, and Federal agencies, and to private individuals upon whose continued interest in improving the use of rural lands and initiating action programs depends the future economy of the county.

1/ In consultation and cooperation with the Clatsop County Land Use Committee the investigation was initiated and most of it completed while the author was assistant to the State Land Use Planning Specialist.

Roughly, 90 percent of the land area is devoted to forest use and the remaining 10 percent is used chiefly for agricultural purposes.

One of the major factors contributing to present economic maladjustments is the rapid depletion of forest resources. Merchantable timber on about 68 percent of the present forest land has been logged or burned, and nearly 30 percent of all forest land in the county is in a nonrestocked condition. At the present rate of log depletion it is estimated that the 7.99 billion board foot volume of all timber species 16 inches and over in diameter, breast high, reported by the Pacific Northwest Forest and Range Experiment Station November 1937, will have dropped to 5 billion board feet by about 1945. Stands of merchantable Douglas fir will be virtually depleted by that date and the estimated number of men to be employed in the woods for all species will drop from around 1,800 to about 650.

Loss of timber resources coupled with unwise promotional subdivision of rural property and speculative holding of lands for recreational purposes in certain localities has been followed by forfeiture of large acreages to the county for unpaid taxes. Present conditions point to a heavy increase in county ownership of land during the next few years.

Clatsop County faces a problem of developing and stabilizing its resources to provide maximum income opportunities for the people of the county. Maintenance of adequate local government and public-service facilities with a declining tax base appears to be a serious problem. From 1925 to 1937 the taxable wealth dropped from 38.6 to 15.8 million dollars, or a decrease of 59 percent. During the same period the school enrollment in the rural districts increased 20 percent.

The economic development and stabilization of the resources are dependent largely upon the best long-time use of the lands. Based on available physical, economic, and social data the lands have been grouped, according to their adaptability, into 4 major use classes: (1) agriculture, (2) grazing, (3) forestry and (4) recreational and resort. The agricultural and grazing classes are further subdivided according to their adaptability or relative merits for development.

The county is divided naturally into 6 geographic and economic areas which are treated individually to permit a more intimate consideration of the land use problems as they affect each local community.

Data are presented which indicate that the tax base of the county can be materially broadened through orderly development of the land resources. Potential development of approximately 125,000 acres of cut-over lands in the southeastern section of the county for range purposes offers possibilities for improving the economic conditions of the county. The extent, rapidity, and permanency of this development will be contingent upon (1) success of economically establishing and maintaining suitable forage species, (2) demands of the livestock industry, (3) availability of breeding stock acclimated to the area, and (4) available supply of satisfactory grass seeds.

Potential agricultural land in the county is about 51,000 acres or nearly double the present acreage in agricultural use, although possibilities for successful development of some of these potential lands are limited.

Land best suited to forestry represents over 60 percent of the total area of the county. With adequate protection and intensive management those lands will in time increase the forest resources and stabilize the lumbering industry upon which a large portion of the working population of the county is dependent either directly or indirectly.

Other means of improving the economic condition of the county are to be found in the decrease of tax expenditures consistent with efficient administration and operation. In this respect a reorganization of school districts offers possibilities for tax savings as well as equalization of the school costs and increased educational advantages.

Management of tax-reverted land is becoming an increasingly important problem in the economic affairs of the county. The county possesses broad powers for dealing with this problem and is therefore in a position to exercise considerable influence on the proper use of all land through wise handling of tax-reverted land. There is definite need for these lands to be placed under a system of management that will protect the resources and insure an income for the future.

The future development of the county and the welfare of its people depend upon the prevention of further settlement of nonagricultural land. Rural zoning and related land-use regulations, that have been recommended by the Clatsop County Land Use Committee, have proved successful in the solution of this problem in several other States.

This report shows the need for further study to determine: (1) a sound land-management program for lands in each of the major use classes; (2) the relationship and effect of indebtedness of various taxing units and systems of taxation upon the county's resources and its people.

INTRODUCTION

The coastal region of western Oregon, of which Clatsop County is a part, faces a common problem in the use of its land resources. Several million acres of once-virgin forest land which contributed materially to the industry and wealth of this region have been logged or burned. In the wake of this heavy liquidation or loss of resources are found such important problems as declining sources of employment and income, the accumulation of large acreages of tax-delinquent lands in county ownership, and misuse of cut-over land.

General Physical and Climatic Characteristics

Clatsop County, situated in the extreme northwestern corner of Oregon, is approximately 30 miles square and has a total land area of 526,541 acres. ^{2/} The terrain, for the most part, is mountainous. The summit of the Coast Range extends in a north and northeasterly direction through the center of the county and is broken by the Columbia River along the north boundary. The elevation varies from sealevel along the coast to a little over 3,000 feet at the summit of Saddle Mountain.

The main drainage east of the Divide is the Nehalem River, which flows in a southwesterly direction into Tillamook County, and drains into the Pacific Ocean south of the Clatsop County line. The valley proper is fairly narrow, being about a mile wide in its broadest place and pinching off into rough mountainous country south of the community of Elsie. Up to this point it is bordered on either side by bench lands and rolling hills, although there are occasional sharp breaking hills which rise rather abruptly from the valley floor.

The western slope is more rough and broken and is cut by several drainages, the most important of which are the Necanicum River which empties into the ocean at Seaside and the Lewis and Clark, Klaskanine, and Young's Rivers which flow into Young's Bay near the mouth of the Columbia. These drainage ways are very narrow in their upper reaches but widen as they approach tidewater.

Climatic conditions, although mild, vary somewhat as between the coastal section and the interior of the county. There is not only a greater range of seasonal temperatures but rainfall and moisture are less plentiful on the east side of the Coast Range.

According to the United States Weather Bureau, the average annual precipitation at Jewell in the Nehalem Valley for the period 1920 to 1930 inclusive (only years records available east of the Coast Range in Clatsop County) was 71.29 inches, while during the same period at Astoria it was 77.14 inches. Although this difference is not great, actual moisture conditions vary considerably due to the higher relative humidity on the coastal slope. Heavy fogs frequent this slope during much of the year, causing the area between the Pacific and the summit of the Coast Range to be known locally as the "fog belt". Most of the precipitation in this whole region falls during the winter months. The prevalence of fog, together with more even temperatures and occasional summer rains on the west slope results in a rapid and heavy vegetative growth which makes it extremely difficult to establish other than the native forest cover.

The average length of growing season at Jewell (8-year average) is 166 days, while at Astoria the average (38 years) is 273 days. For the county as a whole the temperature seldom rises over 85 degrees in summer or falls below 20 degrees above zero in winter.

^{2/} There is some disagreement as to the total area of the county. The Oregon Blue Book gives the acreage as 525,440 while other sources range up as high as 539,672 acres. This difference is due, probably, to differences in the measurement of the coast line and waterways. The acreage used in this text was obtained by planimetering the area use map, fig. 1.

Early History of Settlement

The early history of settlement ^{3/} in this county dates back to the discovery of the Columbia River by Captain Gray in 1792. In the fall of 1805 Lewis and Clark concluded their Western expedition by establishing their winter quarters on the south bank of the river, near the present site of Astoria, and erecting a crude fortification which was named Fort Clatsop in honor of the Indians of that region. The first permanent white settlement was made in 1811, when John Jacob Astor, through his newly organized Pacific Fur Company, established a fur trading post at Astoria. Fur trading with the Indians continued to be the principal activity in this territory until about the middle of the 19th century.

Settlement in the county progressed very slowly until about 1870, and was confined principally to Clatsop Plains and the vicinity of Astoria. The year 1866 marked the construction of the first salmon cannery and the discovery of the wealth in the Chinook salmon of the Columbia River. Thousands of fishermen were attracted to the Columbia by the growth in the fishing industry. Canneries sprang up and during the 1880's Astoria grew rapidly to become the salmon center of the world.

It was during this period also that the transcontinental railroads were completed to Portland, and with the opening of the bar at the mouth of the Columbia River, the area was brought into more direct contact with world ports and markets. Lumber mills were established and extensive logging operations were started in the heavily timbered areas which covered approximately 90 percent of the county.

Agricultural Development

Agricultural development along the fertile river bottoms followed closely the advent of the fishing and lumbering industries. From 1860 to 1880 the total number of farms in the county, as reported by the Bureau of the Census, increased from 47 to 146, while the total population jumped from 498 to 7,222 during the same period and by 1890 had grown to 10,016. Farming activities were confined chiefly to the raising of dairy and other livestock with a small amount of cereal crop production. During the period of 1880 to 1935 the total acreage of improved lands increased only from 10,070 to 14,496 acres, while the total number of farms rose sharply from 146 to 857. Despite these increases, the total land in farms in 1935 was 52,908 acres, which represents only about 10 percent of the total land area of the county. Rural farm population in the county in 1930 amounted to 2,772 out of a total population of 21,124. The 1935 farm population was 3,398.

^{3/} "History of Clatsop County" by Kenneth Fitzgerald--Commonwealth Review of University of Oregon, May 1938.

Decline of Timber Resources and Attendant Problems of Land Use

In contrast with the gradual increase in the agriculture of the county has been the rapid decline in its timber resources. Major contributing factors include the large volume of high-quality Douglas fir of saw-timber size, the easy accessibility of the forests, and their nearness to deep water where cheap transportation to markets is available. A survey of the county by the Pacific Northwest Forest and Range Experiment Station in 1937 revealed that of the 478,375 acres of forest land only about 155,000 acres, or 32 percent, remain with commercial species of saw-timber size. The remaining forest lands have been either logged or burned, although in 1937 approximately 171,500 acres, or 36 percent, of the total forest area was supporting stands of immature forest growth. Recent cut-over areas plus nonrestocking old cut-over and burned-over lands accounted for 30 percent of the total area, and 2 percent was classed as hardwoods and noncommercial rocky areas.

The Coast Range divides the forest areas roughly into two broad timber types. Douglas fir is the predominant type on the eastern slope, and Western hemlock and Sitka spruce, pulp-wood species, dominate the forest growth on the slopes toward the Pacific Ocean and the Columbia River to the north.

In the Douglas fir territory, in particular, where most of the merchantable timber has been harvested, the apparent policy of the private timber owners is to liquidate their forest values as quickly as possible. This policy has resulted in large areas of cut-over forest lands being forfeited to the county for unpaid taxes. Recent indications are that some of the larger operators plan to deed to the county their cut-over lands immediately following the harvesting of the timber crop. This will mean the speeding up of the process of acquisition by the county and will hasten the time when the county will become the principal land owner.

Such a condition is not without its serious effects upon the economic life of the county. The depletion of the forest resources results in a direct loss of forest occupational opportunity which has its effect upon the employment of those who are indirectly dependent upon the forest industry. Its effect upon local governments and their tax structures, including indebtedness, is also important. The rapidly dwindling tax base, which is due in large part to the decline of forest resources, is making it increasingly difficult to meet the present cost of roads, schools, port district, county government and other public services. There is a tendency for the burden of taxation to be shifted and pyramided onto remaining private property owners. The tax base in the county decreased during the 12-year period 1925 to 1937 slightly more than 59 percent, or from \$38,580,825 to \$15,799,372. The trend is still downward.

If the present costs of public services are to be met, it is evident that some means of adjustment is necessary to prevent eventual confiscation of taxable property. Any sound program of adjustment must necessarily be based upon the proper use and development of the land and other resources of the county.

Areas of agricultural settlement are to be found in the county which, because of their isolated location, quality of the soil, or other factors, are unadapted to agricultural use. Frequently such areas not only constitute a rural relief problem but also necessitate an annual cost for roads, schools, and other public services which is far in excess of the annual tax revenue from the lands benefited. While it is not implied that all rural areas should raise in property taxes all that is expended for public services within them, excessive drain upon the rest of the county or State to sustain isolated settlement or poorly organized local units is not justified.

Mild climatic conditions, plus the availability of cheap cut-over lands, offer inducements to the many new settlers who have little or no knowledge of the inter-relationship of soils, topography, climate, and vegetative cover in the use of the land. Consequently, unless wisely directed, many of them may locate in areas unsuited to agricultural use and without benefit of adequate public facilities such as roads and schools. This unwise or misguided settlement may result in serious losses of financial, human, and natural resources, and in increased costs for public services and rural relief. Scattered settlement in forest areas frequently constitutes a fire hazard to life and property of both the settler and forest owner and may prevent economical protection of private and public forest lands.

The question of how best to develop and manage the increasingly large areas of county-owned land so as to promote the general welfare, to aid in restoring the forest employment base, to add other employment bases, and to increase the local sources of revenue for needed public purposes -- in all, to stabilize local industry and communities -- is one of growing concern to county officials and other interested individuals.

Purpose of Study

The study on which this report is based was undertaken at the invitation of the Clatsop County Court and the County Land Use Committee to collect, analyze and coordinate basic data from which to develop a sound land-use program. Through the cooperative effort of the Committee, county officials, and interested individuals, both State and Federal, an attempt has been made to evaluate available physical, social, and economic data in order to determine, for the next decade or so, the best major uses for which the lands are adapted.

It is hoped that the resulting land-use plan and supporting data will continue to be of help in bringing about a better understanding of land-use problems in the county and will be of assistance to the local people in determining areas in which:

- 1--conditions are most favorable to agricultural development including grazing.
- 2--sound forest-management practices should be encouraged.
- 3--settlement is undesirable.
- 4--the extension or contraction of public services appears desirable and economical.
- 5--agricultural credit should be restricted or extended.

Method of Study

In making this suggested land-use plan, the land was segregated as to its best use under present economic conditions on the basis of its physical adaptability, the economic need for land in a particular location, the relation of a body of land to public services, and other features which determine the social desirability of uses for specific land areas. The physical adaptability was determined primarily by soil, topography, climate, and native vegetative cover. Socio-economic adaptability was determined by the amount that can be invested in changing certain features of the land by clearing, diking, drainage, and fertilizer practices and the relation between yield and value of product and the costs of the above items.

Physical data used in determining the adaptability of land to its best use consisted of topographic maps compiled from aerial photographs, a reconnaissance soil survey, forest type cover, and climatological data summarized from records of the U. S. Weather Bureau.

Social and economic data secured from field work, county records, and other sources consisted for the most part of rural land ownership, present land use, assessed valuation of rural land, public and private improvements and the location of school children, schools, and bus routes.

Small isolated areas were not differentiated. Some of them may be physically adapted to agricultural use, but because of their limited extent and isolation they do not justify the cost of roads, schools, and other public services. On the other hand, there are lands in the county which from the standpoint of physical adaptation alone may not warrant agricultural development, but because of certain market advantages due to location and relation to other agricultural land, public services or industries may merit such development.

After the land adaptability was tentatively determined, the boundaries so established were checked by field inspection and presented to members of the County Land Use Committee, the County Court, and representatives of interested local, State, and Federal agencies for criticism and suggestions. From this, the area plan was derived representing the combined experience and judgment of local individuals and officials as well as planning technicians.

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Land Adaptability Classes

The lands of Clatsop County have been divided into several adaptability classes on the basis of the foregoing considerations. These classes are shown in fig. 1.

Agricultural

Lands having general crop adaptability.

Lands having limited crop adaptability.

Grazing

Lands having the greatest possibilities for grazing development for home ranch use.

Lands having secondary possibilities for grazing development for home ranch use.

Lands on which grazing development should be deferred because of immature forest growth.

Lands having best possibilities for grazing development for range use without home ranch facilities.

Forest

Lands primarily suited to forest use.

Recreational and Resort

Lands especially adapted to recreational and resort use.

The general characteristics of the land classes are given below and the more detailed factors which apply to individual bodies of land are included in area discussions.

Agricultural Lands

The agricultural lands, primarily because of their soil characteristics, are divided into two classes:

1. Lands having general crop adaptability. These lands occur in the bottoms adjacent to streams or tide flats and comprise the greater part of the developed and potential agricultural lands of the county. The topography is generally level. The soils are mainly alluvial in origin. Both the surface and sub-soils are fine textured and are usually free from gravel or hard-pan. They have the high inherent fertility which is characteristic of recently formed bottom land soils. When properly managed these soils may be maintained in a permanent high production of a wide variety of crops, depending somewhat on the present drainage, protection from overflow and state of available fertility maintained by cropping and fertilizing processes. When

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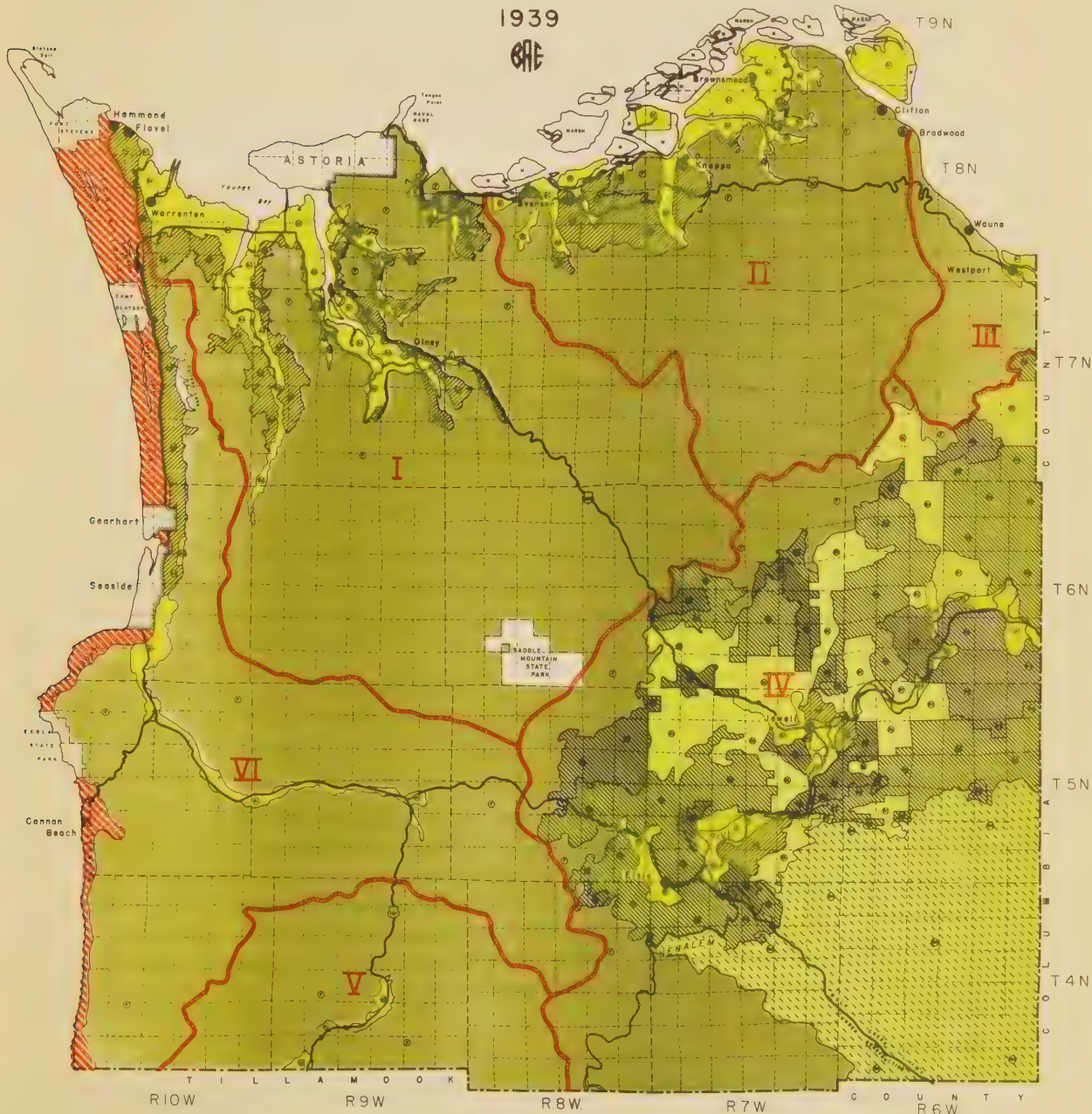
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AREA PLAN FOR LAND USE

PREPARED IN COOPERATION WITH THE COUNTY LAND USE COMMITTEE

1939

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- AGRICULTURAL LANDS HAVING GENERAL CROP ADAPTABILITY
- AGRICULTURAL LANDS HAVING LIMITED CROP ADAPTABILITY
- BOUNDARY OF NATURAL GEOGRAPHIC AND ECONOMIC AREAS

- LANDS HAVING GREATEST POSSIBILITIES for GRAZING DEVELOPMENT for HOME RANCH USE
- LANDS HAVING SECONDARY POSSIBILITIES for GRAZING DEVELOPMENT for HOME RANCH USE
- LANDS ON WHICH GRAZING DEVELOPMENT SHOULD be DEFERRED BECAUSE of IMMATURE FOREST GROWTH
- LANDS HAVING BEST POSSIBILITIES for GRAZING DEVELOPMENT for RANGE USE WITHOUT HOME RANCH FACILITIES

- LANDS PRIMARILY SUITED to FOREST USE
- LANDS ESPECIALLY ADAPTED to RECREATIONAL and RESORT USE
- AREA REFERENCE NUMBERS

adequately drained and protected from overflow they are well adapted to the growth of legumes and grasses for hay and pasture and to the production of grains and numerous other crops common to the region. They are the best agricultural soils in the county and are comparable in quality with the best soils in adjacent counties.

In general, these lands will justify the cost of clearing, diking, and drainage where these improvements are necessary. Preliminary results of a survey by the Bureau of Agricultural Economics indicate the possibility of clearing land by modern methods at costs ranging from about \$40 to \$65 per acre depending upon local conditions. The native vegetation on these bottom lands is frequently deciduous growth which is much more cheaply cleared than the coniferous forest growth.

The diking of most of the lands requiring this protection has been done or is now being done either privately or under the flood-control program of the War Department. But some of this land will require additional drainage. Marsh lands and islands along the Columbia River have not been included in this classification unless tentative feasibility of their reclamation has been indicated by the War Department.

It should be pointed out that there are great variations in the costs of diking, clearing, and drainage, and each particular tract of land should be evaluated on its own merits.

2. Lands having limited crop adaptability. The lands included in this class are less favorable for agricultural development than the above class. In general, they are located adjacent to bodies of high-quality agricultural land. Included are low hill and bench lands which have been formed from the decomposition of the parent bed rock or marine deposits in place. As a result of this method of formation they are comparatively low in mineral fertility and are rather strongly acid in reaction. The low fertility and high acidity make them poorly adapted to the growth of perennial legume crops. They require more fertilizer and more care in tillage than the agricultural lands having general crop adaptability, if they are to be productive and if excessive erosion is to be prevented.

These characteristics usually limit these soils to pasture use or the growing of grain and vetch hays. Where located close to bottom lands they are valuable as building sites, and supply supplemental pasture during the rainy season when the bottom lands may be extremely wet. In certain localities they serve as satisfactory locations for part-time or poultry farms for which a small acreage is all that is needed and a larger investment can economically be put into fertilizer and a soil-building program.

Extensive clearing and development of the hill and bench land for general farming is not justified under present economic conditions. It is probable that all of this land may not be needed for agriculture for several years, and so where covered with forest growth may profitably be used for farm forestry as an additional farm enterprise. Where

these lands are already cleared or where their location makes them a valuable supplement to bottom lands, their use or development for agricultural purposes may be desirable.

Peat lands are included in this class. These require special provision for drainage and sanding in preparation for cranberries, to which crop certain of the bogs are well adapted. Their use for other specialized crops, including truck crops and berries, requires special management.

Grazing Lands

This broad class involves the use of natural forest lands which are now chiefly cut-over or in process of being logged. The attempted use of such lands for grazing purposes involves a problem of economically establishing suitable forage species on lands naturally adapted to the growth of forest trees.

The best experience and judgment of local stockmen and agricultural and forest leaders familiar with the problem indicate that lands having potential range use are confined to the Nehalem River watershed in the southeast part of the county. This conclusion is based on certain fundamental physical land differences and a realization that any grass stands must be established and maintained in competition with the native plants which tend naturally to reestablish themselves.

Conditions favorable to establishment of forage stands are high fertility and low soil acidity whereas ferns, moss and certain species of brush and coniferous forest trees grow well in the more acid soils of relatively low fertility. Although the hill lands are acid and generally low in fertility in all parts of the county, this condition is more marked in the moist areas west of the divide. This moisture condition is indicated in the difference in native vegetation. The spruce-hemlock type with the rapidly growing associated species dominates the western part of the county, while the Douglas fir type is prevalent in the Nehalem River watershed.

The accumulation of ash resulting from the burning of large quantities of material left on the land, after the logging, has a pronounced favorable effect in temporarily reducing the soil acidity of the surface soil and increasing availability of plant nutrients. Common experience in the use of fire in preparation of cut-over lands for grazing (as well as soil experiments) bears out this relationship and the value of a "clean hot burn" in securing grass stands. Subsequent leaching by the high rainfall in this area causes a gradual reversion of the soils back to the native condition and results in greater competition from the less palatable native plants and shrubs. The persistence of a grass stand is dependent largely upon the amount of ash left on the soil and the ability of the particular grasses to tolerate the unfavorable soil condition and to compete with the native species.

Climatic conditions east of the divide are more favorable to a clean burn than in the western part of the county. Experimental work now in progress will indicate, in the course of time, the competitive ability of various forage species. It appears obvious that the application of soil amendments ^{4/} can be ill-afforded in the development or maintenance of range lands, and that repeated burns are ineffective because there is a relatively small quantity of material left to burn. This is borne out by the difficulty that has been experienced in the maintenance of range on logged-off lands over periods of time in excess of 10 or 15 years and the difficulties encountered in obtaining stands on lands burned-over several years prior to seeding. Lands of steeper slopes generally offer more difficulties in establishment and maintenance of range than do the more gently rolling lands.

The close proximity of agricultural bottom lands for winter feed production and as a base for home ranch operations may have an important influence on the development and use of the lands for grazing purposes.

On the basis of the factors indicated above, the grazing lands have been divided into four classes.

(1) Lands having the greatest possibilities for grazing development for home ranch use. This class includes those lands which have been recently logged or which now carry mature stands of timber that probably will be logged in the near future. They are further characterized by a moderate slope (25 percent or less) and usually have deep soils of fine texture. The recency of logging permits the clean burning of refuse which better prepares the land for the establishment of grass because of the accumulation of ash and the consequent temporary increase in soil fertility and decrease in acidity. They are easily accessible to agricultural lands which will provide adequate winter feed for range livestock operation. Public facilities are provided in the agricultural areas which can serve as ranch headquarters for these grazing lands.

(2) Lands having secondary possibilities for grazing development for home ranch use. These lands are characterized for the most part by nonrestocking old cut-overs and burns; poorly stocked stands of coniferous young growth (10 years of age); small areas of merchantable timber and recent cut-over lands with slopes of greater than 25 percent; and soils of coarser texture or generally shallow and spotty. They are less favorable to the development of grazing under present generally accepted seeding practices than the preceding class, because of the time that has elapsed since they were logged and burned and the general lack of sufficient debris for suitable roburning. The poorer soils and steeper slopes increase the difficulty of range maintenance and control of erosion.

4/ Lime and fertilizers.

(3) Lands on which grazing development should be deferred because of immature forest growth. This class includes all second-growth and forest reproduction occurring within the general body of grazing lands except the poorly stocked stands in the 10-year age group. These lands are physically similar to the other two classes, but the present timber stands are sufficiently valuable to warrant protection. The cost of preparation of this land for grazing (slashing, burning, seeding, etc.) would be excessive and the waste of the forest cover would be uneconomical.

(4) Lands having best possibilities for grazing development for range use without home ranch facilities. These lands lie in the more remote parts of the watershed and are characterized by a rather high proportion of rough lands and greater distances to a winter-feed base. No developed agricultural land is to be found in the territory included within this grazing class, and sites suitable to the growing of winter feed are very limited. Therefore, the bulk of the feed or the majority of livestock which are to graze these lands must be transported from the Willamette Valley or other agricultural areas. Because of these conditions these lands may be less susceptible to development and utilization as range than are lands in the other grazing classes. The great majority of the lands are nonrestocking old cut-overs or burned-overs and consequently the success and extent of their utilization for grazing purposes are contingent upon the development of economical and satisfactory means for the establishment and maintenance of grass stands on land of this character.

Forest Lands. These lands are primarily adapted to forest use because of climatic and soil conditions which especially favor the growth of forest trees. Topography ranges from gradual slopes to mostly rough and mountainous where forest cover is essential as a protective cover to conserve soil and water resources. Soils are residual or marine in character, usually highly acid in reaction and low in organic matter, and in places shallow or stony.

Practically all of the upland in the western part of the county is included in this class, because of topography and soil conditions and the persistence of the spruce-hemlock type of forest growth. The forest lands are highly productive, a large part of them being of forest-site quality 1 and 2 (excellent and good). 5/

Recreational and Resort Lands. These lands occur along the coastal bench and consist chiefly of sandy beaches and points of scenic beauty. Because of their location, accessibility, and extent they are primarily valuable for recreational and resort purposes.

FIGURE 2

OUTLINE OF AREAS



Area Descriptions

On the basis of natural physical and economic features, the county is divided into 6 areas as indicated graphically in fig. 2. The land in any one of the areas may embrace one or more of the previously described land classes. The economic and social features of a particular area are not necessarily dependent upon one class of land but rather are interdependent in planning for the best use of all the lands within an area.

Careful consideration has been given to the interrelationship of agricultural, grazing, forest, and recreational and resort lands. The agricultural lands depend principally for their market outlet upon the nonagricultural enterprises in the community, county, State or Nation. The public services which are established in a community should be determined largely by the character of the land in that area. The forest lands require a different type of public service than are required by the agricultural lands, and yet these services may be so planned as to meet satisfactorily the needs of those dependent upon all classes of land. It is with these conditions in mind that a discussion of the various areas of the county is undertaken.

Before entering into an individual discussion of each area there is certain information which perhaps should be summarized for all areas.

Present Use of Forest Land. The present land-use acreages as tabulated from Fig. 3, 6/ are summarized in areas in table 1.

As indicated therein, substantial acreages of merchantable saw timber still remain in Areas I and VI, which comprise the major portion of the spruce-hemlock belt lying west of the summit of the Coast Range. These large acreages of merchantable timber representing about 46 percent of the forest land of the two areas, are supplemented by sizeable stands of young and second-growth timber. Only about 14 percent is clear-cut or burned-over. Proper management and protection of these timber resources would insure a permanent supply of forest products.

In contrast is the depleted condition of the forest resources of the remaining areas which lie principally in the Douglas fir belt. Here, only 23 percent of the forest land remains with commercial stands of saw-timber size. These are being logged at a rapid rate. About 41 percent of the lands are either recent cut-over or nonrestocking old cut-overs or burns, and the remainder, or 36 percent, are supporting stands of immature forest growth. The majority of these latter stands are seedlings and saplings under 6 inches in diameter breast high. Therefore, it would appear that a considerable period will elapse, even with adequate protection and intensive management, before any appreciable extent of the forest land in these areas will again produce a merchantable forest crop.

6/ Present Land Use Map compiled for the agricultural lands from field survey by Work Projects Administration workers under supervision of technicians of the former Land Planning Section of Resettlement Administration. Data for the forest areas were generalized from the 1937 forest type map prepared by the Pacific Northwest Forest and Range Experiment Station.

Table 1.--Present Land-Use Acreages by Areas, Clatsop County,

Present land use	1937						County Total
	Area I Acres	Area II Acres	Area III Acres	Area IV Acres	Area V Acres	Area VI Acres	
<u>Forest use</u>							
Merchantable coniferous timber	35,958	12,180	1,937	37,669	12,032	57,402	157,178
Coniferous second growth 6" to 20" D.B.H.	32,735	13,316	3,753	20,631	4,293	18,429	93,157
Seedlings & saplings under 6" D.B.H.	18,498	30,048	5,062	18,250	2,011	6,307	80,176
Out-over	21,182	8,975	1,055	62,172	10,478	4,296	108,158
Burned-over	819	408	---	24,932	3,577	2,323	32,059
Lowland hardwoods	2,609	1,760	---	2,361	766	2,499	9,995
Total	111,801	66,687	11,807	166,015	33,157	91,256	480,723
<u>Agricultural use</u>							
Field crops, including plowable pasture	10,370	5,765	118	3,553	156	2,087	22,049
Nonplowable pasture	2,082	1,273	10	392	37	1,094	4,888
Total	12,452	7,038	128	3,945	193	3,181	26,937
<u>Other use</u>							
Waste	1,342	5,793	130	---	---	---	7,265
Beach-resort	---	---	---	---	---	---	---
Urban, military reservations, etc.	3,808	---	95	---	---	3,494	3,494
Total	5,150	5,793	225	---	---	4,219	8,122
TOTAL all uses	129,403	79,518	12,160	169,960	33,350	102,150	526,541

LAND USE STUDY OF CLATSOP COUNTY, OREGON

LAND ECONOMICS DIVISION; BUREAU OF AGRICULTURAL ECONOMICS

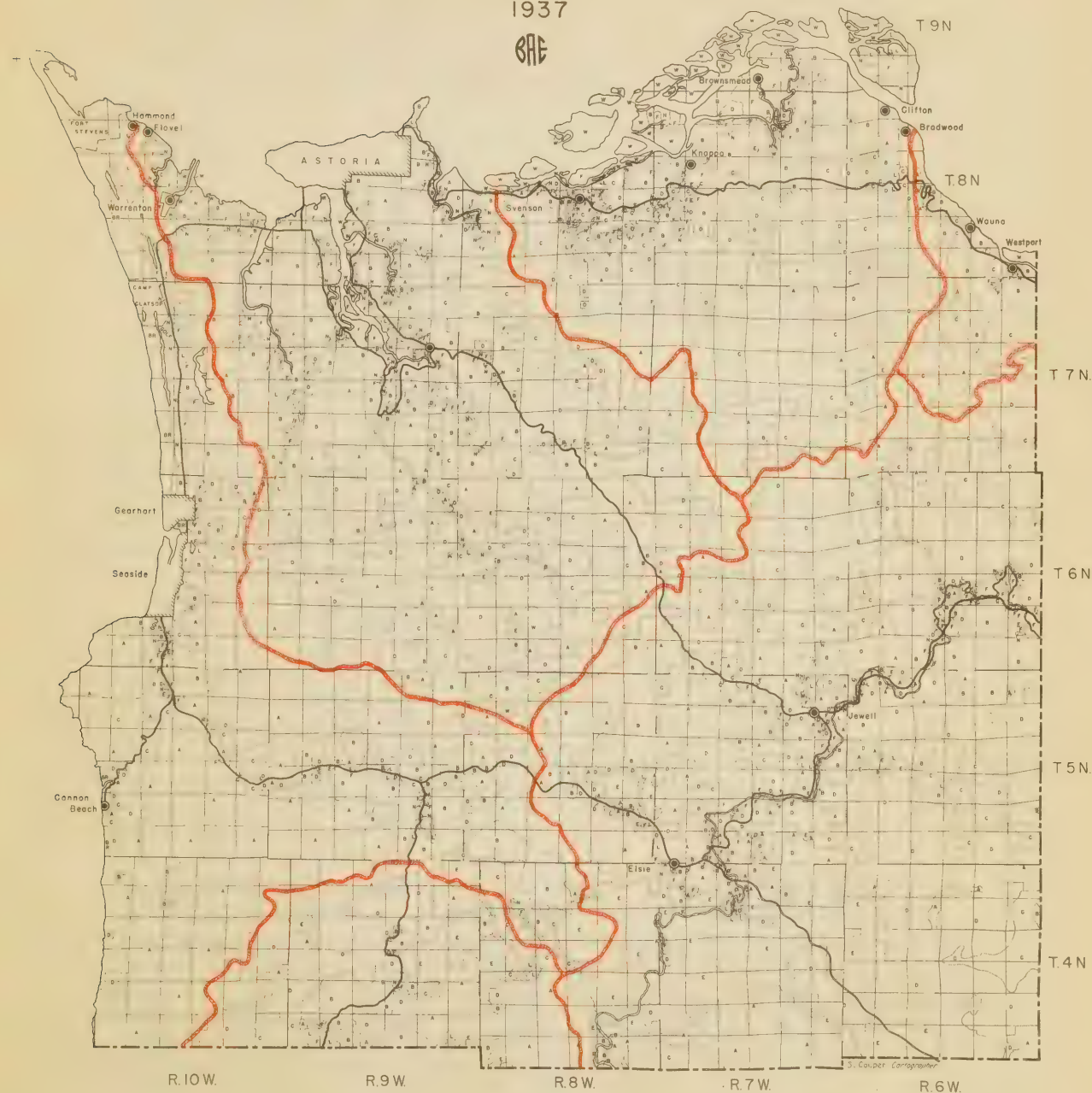
WORKS PROGRESS ADMINISTRATION *Co-operating*

W.P.A. PROJECT, OF 65-84-1230

PRESENT LAND USE

1937

SHE



- | | | |
|--|---|-----------------------|
| [A] CONIFEROUS TIMBER OVER 20" D.B.H. | [D] CUT-OVER LAND | [L] LOWLAND HARDWOODS |
| [B] CONIFEROUS SECOND GROWTH 6-20" D.B.H. | [E] DEFORESTED BURN | [W] WASTE |
| [C] SEEDLINGS AND SAPLINGS UNDER 6" D.B.H. | [F] FIELD CROPS and/or PLOWABLE PASTURE | [BR] BEACH AND RESORT |
| | [N] NON-PLOWABLE PASTURE | |

Ownership. A summary of the ownership of rural lands in the county is as follows:

	<u>Acres</u>	<u>Percent</u>
Private, less than 1,000 acres	130,516	25
Private, Corporate and Non-corporate 1,000 acres and over	318,246	60
County (includes platted lands within incorporated limits of Warrenton)	61,490	12
State	5,722 $\frac{1}{2}$	1
Federal	3,412 $\frac{1}{2}$	0.7
Municipal	1,350	0.3
Urban	5,805	1
<u>Total</u>	<u>526,541</u>	<u>100</u>

1/ Official acreages as given by the Oregon Blue Book 1939-1940. Remaining acreages tabulated from the Rural Land Ownership and Present Use Maps, figs. 4 and 3 respectively. Acreage of urban lands from latter figure.

On the western slope in Areas I and VI, a few long-established pulp companies control a large portion of the forest land. The county owns numerous small tracts in various parts of these two areas and a few large tracts in the upper watershed of the Klaskanine River in Township 7 north, Range 8 west (fig. 4). Except for this latter district, however, the tax-reverted land problem in these areas is relatively unimportant as compared with the other areas of the county. This fact is probably due to a number of factors; important among them is the apparent intent of ownership on the part of the large companies holding the lands. That is, the majority of the lands in the spruce-hemlock belt west of the divide actually are managed for the purpose of growing additional crops of timber. This is contrasted with the policy of liquidating timber values as rapidly as possible, the practice of most timber companies in the Douglas fir region. Additional factors that may influence the intent of ownership of the pulp species are: first, the relative ease of establishing a forest crop; second, the shorter growing cycle required to produce crops for pulpwood; and third, the less hazardous fire conditions which usually prevail on the west slope of the Coast Range.

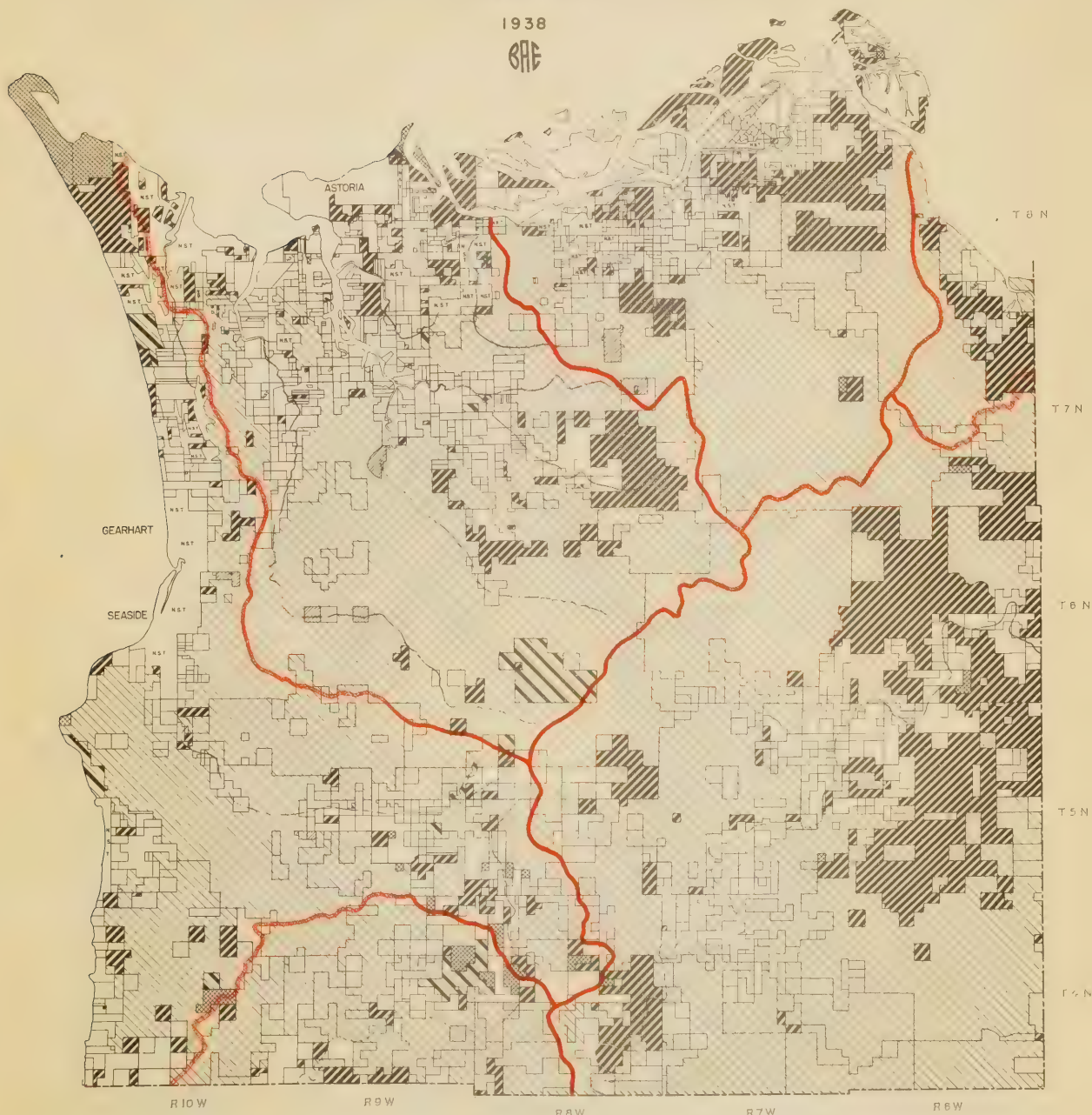
Assessed valuation. Many of the forest lands (as shown by the Assessed Valuation Map, fig. 5) are classed as reforestation lands and under State statutes are exempt from the ad valorem property tax, but pay a 5 cents per acre flat tax or fee until the timber crop is harvested, at which time a $12\frac{1}{2}$ percent gross yield tax is imposed. The assessed valuation of forest lands not classified under this law range from \$1 per acre to over \$100 depending upon the forest cover. The highest valuations are found among the old-growth stands of Douglas fir.

Prospects for Further Decline of Timber Resources. The limitations of any forecasts or predictions as to the probable amount of the timber resources in the county as of any future date is recognized. Unpredictable

LAND USE STUDY OF CLATSOP COUNTY, OREGON
 LAND ECONOMICS DIVISION; BUREAU OF AGRICULTURAL ECONOMICS
 WORKS PROGRESS ADMINISTRATION Co-operating
WPA PROJECT, OF 85-84-1230

RURAL LAND OWNERSHIP

1938



PRIVATE
Less than 1000 acres.

COUNTY

STATE

PRIVATE, CORPORATE AND
NON-CORPORATE
1000 acres and over.

N.S.T. SUBURBAN AND PLATTED
SUBDIVISIONS
Numerous small tracts.

MUNICIPAL

FEDERAL

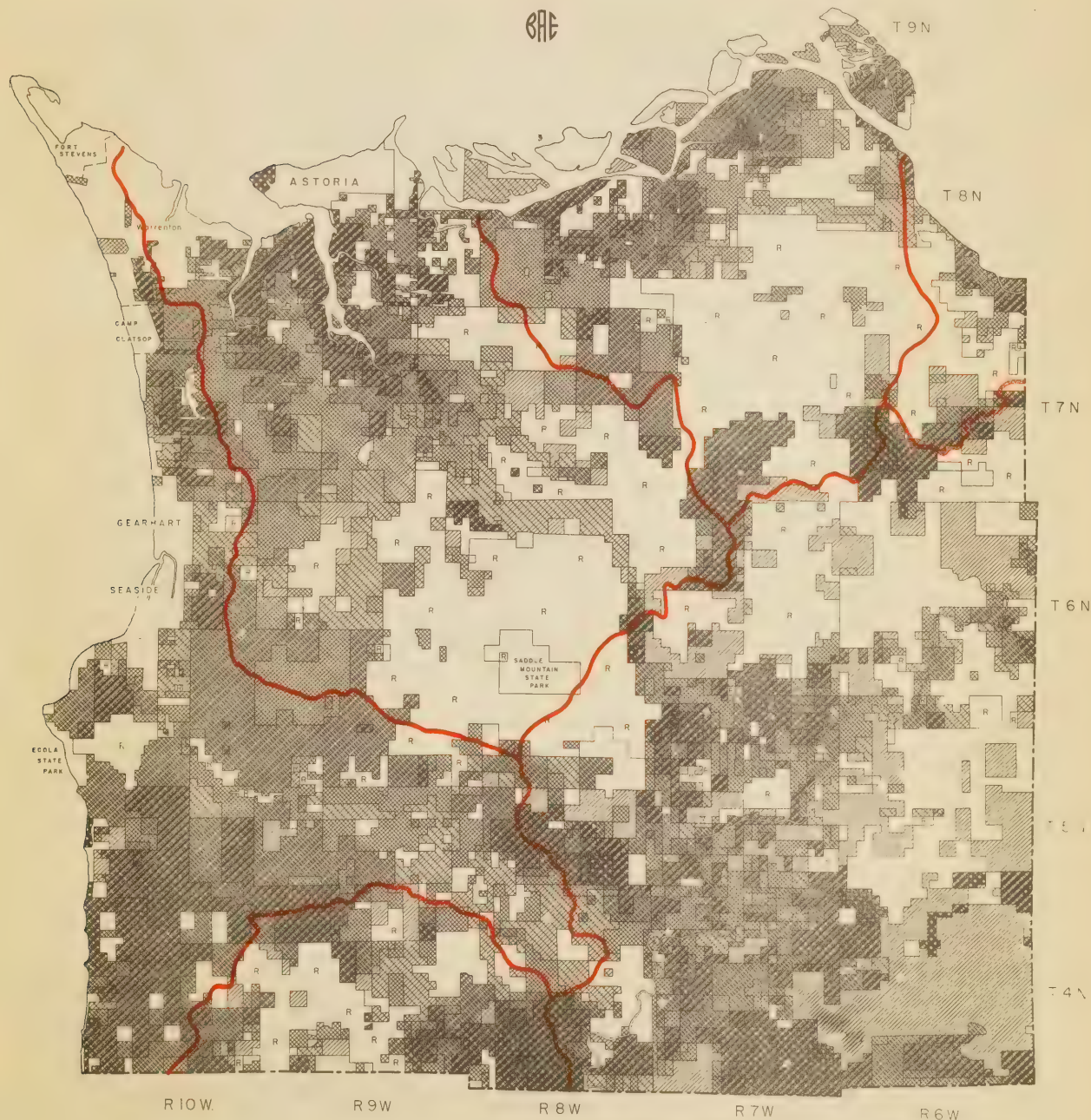
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LAND USE STUDY OF CLATSOP COUNTY, OREGON
LAND ECONOMICS DIVISION; BUREAU OF AGRICULTURAL ECONOMICS
WORKS PROGRESS ADMINISTRATION *Co-operating*
U.S.A. PROJECT, BP 65-194-1120

ASSESSED VALUATION OF RURAL LANDS

1937

BAC



	TAX EXEMPT LANDS		\$1.01 - 4.00		\$22.01 - 46.00
	LANDS UNDER REFORESTATION ACT		\$4.01 - 10.00		\$46.01 - 100.00
	\$1.00 & UNDER (ASSESSMENT PER ACRE)		\$10.01 - 22.00		OVER \$100.00

PREPARED IN THE OFFICE OF THE OREGON LAND PLANNING SPECIALIST, JUNE 1939

Printed by
UNITED STATES FOREST SERVICE
Region 6

NOTE: Assessed valuation of
small suburban tracts not indicated

factors such as unusually heavy fire losses, insect epidemics, and the rate of log depletion 7/ may combine to disrupt any forecasts for the future, even over a comparatively short period.

But data are available on which reasonably accurate estimates can be made over the short run based on normal or prevailing conditions.

Fig. 6 indicates the decline in total board feet volume of all timber species, 16 inches and over D.B.H., in the county for the period 1933 to 1938, and the estimated total board feet volume for each of the next three decades. Forest statistics as to the total board-foot volume of timber by species is published for Clatsop County by the Pacific Northwest Forest and Range Experiment Station for the years 1933 and 1937. In the report of November 1, 1937, the total volume of all timber species was slightly less than 8 billion board feet, of which about 2.5 billion board feet was Douglas fir. Nearly 90 percent of the latter figure was reported as old-growth timber.

The total log depletion of all timber species for the period 1925 to 1938 inclusive is presented in table 2. During the depression years of 1930 to 1934, logging operations dropped off considerably, but by 1937 the predepression rate of cut was virtually regained. The average rate of depletion for the 14 year period was 403 million board feet. More than 307 million board feet of this was Douglas fir.

The estimated present annual growth is 36.7 million board feet. 8/ This is figured on approximately 100,000 acres of land classed as being primarily suited to forest use now supporting growing stands of from 40 to 160 years of age in which there is a material board foot increment. It does not include second-growth stands averaging less than 16 inches D.B.H., potential growth on cut-over or otherwise deforested land, or the potential growth of forest lands now covered with virgin timber (saw timber stands of more than 160 years of age).

Estimates have also been made by members of the Forest Experiment Station staff as to the average net annual growth on lands classed as primarily suited to forest use for each of the next three decades as follows:

First decade	39.4 million B.F.
Second "	54.2 " " "
Third "	74.9 " " "

These averages, however, are based on a percentage depletion applicable to the Columbia River unit as a whole which consists of Clatsop, Columbia, Clackamas, Hood River, and Multnomah Counties. The figures may not be entirely applicable to Clatsop County, but should there be any discrepancy in applying them to this county, it is believed that they represent maximum rather than minimum growth values.

7/ Log depletion refers to the total board foot volume log scale of timber cut.

8/ Estimate by staff members, Pacific Northwest Forest and Range Experiment Station.

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Table 2.--Total log depletion by timber species,
Clatsop County, 1925-38. 1/

Year	Total	Douglas Fir	Pulp Species	Other Species
	1000 Board Feet	1000 Board Feet	1000 Board Feet	1000 Board Feet
1925	502,920	466,070	35,930	920
1926	572,380	532,260	38,150	1,970
1927	513,815	461,640	50,175	2,000
1928	555,025	492,365	61,330	1,330
1929	546,895	489,875	55,555	1,465
1930	375,660	299,000	69,760	6,900
1931	205,927	136,639	64,048	5,240
1932	209,370	117,405	82,595	9,370
1933	267,764	152,610	108,937	6,217
1934	214,663	145,288	63,855	5,520
1935	280,995	172,617	102,921	5,457
1936	418,910	288,487	111,577	18,846
1937	530,033	320,106	195,087	14,840
1938	449,125	231,627	192,560	24,938
Total	5,643,482	4,305,989	1,232,480	105,013

1/ Collected by Pacific Northwest Forest and Range Experiment Station
for the Bureau of the Census.

Based on the average log depletion of 400 million board feet for the period 1925 to 1938 and making allowances for annual growth, it is estimated that by 1945 the total volume of timber in the county will have dropped to about 5 billion board feet. If the Douglas fir stands continue to be depleted at the rate of 300 million board feet a year, by 1945 they will be completely logged, except for a small board foot volume in second-growth stands. This small residue in growing stands is always likely to remain and should tend to increase over a period of years. This accounts for the two broken lines in fig. 1 not coming together. If both lines were to be extended to 1968, under normal conditions, the distance between the two by that date would be greater than is now shown for the year 1945. Actually, the cutting of old growth Douglas fir may continue a short time beyond 1945. As some of the large operators complete their logging operations, there undoubtedly will be a decline in the rate of cut due to a smaller number of operators. This should not materially affect the total estimated volume of timber remaining in the county as of that date, however, because of the substantial increase in the rate of log depletion which has taken place since 1934 in the other timber species.

Cognizance is taken of this steady increase in the depletion of the pulpwood and other species by basing the estimated average annual cut for the remainder of the three decades on the average for the period 1935 to 1938, which roughly amounts to 160 million board feet. Allowing for

growth, the total volume of timber in the county at the end of each of the next three decades is estimated as follows:

1948	--	4.7	billion	board	feet
1958	--	3.6	"	"	"
1968	--	2.7	"	"	"

It seems apparent from the above figures that under present forestry practices the timber resources of Clatsop County are destined to reach new lows. Even if all the forest lands were to be adequately protected and intensively managed, it would require several years before any general improvement or increase in the total volume of timber would be noticeable. This, of course, is especially true in the Douglas fir areas. The large tracts of nonrestocking old cut-over and burned-over land may take several years to restock, after which the timber must reach an age of approximately 40 years before there is any appreciable board-foot increment. The protection and management of these cut-over lands and stands of immature forest growth are essential to the future of the forest industry as well as to the economic well-being of the people dependent either directly or indirectly upon this industry for a livelihood. The long period which necessarily must elapse between cutting of the timber and its regrowth to marketable size only emphasizes further the necessity for taking immediate steps that will aid reforestation.

Potential Annual Growth on Forest Land. The total acreage of land by areas classed as being primarily suited to forest use is presented, together with the acreages of other land adaptability classes in table 3.

Data have been compiled by the Pacific Northwest Forest and Range Experiment Station as to the site quality of the forest lands in Clatsop County and the potential annual growth that could be obtained on the whole of the commercial forests through intensive management practices. The estimated potential annual growth for each area is indicated in table 4.

Table 4.--Summary by Areas of Potential Annual Forest Growth, Clatsop County. 1/

Area	Total Acreage Primarily Adapted to Forest Use	Total Mean Annual Growth
	Aôres	1,000 board feet
I	104,600	67,917
II	59,223	24,890
III	11,711	5,435
IV	35,667	16,255
V	32,575	13,421
VI	80,294	49,971
Total	324,070	177,889

1/ Compiled from published and unpublished data furnished by staff members of Pacific Northwest Forest & Range Experiment Station.

Table 3.--Acres of Land Adaptability Classes by Areas, Clatsop County,
1939

Land adaptability class	Area I Area II Area III Area IV Area V Area VI						County Total
	Acres	Acres	Acres	Acres	Acres	Acres	Acres
Forestry	104,600	59,223	11,711	35,667	32,575	80,294	324,070
Agricultural							
	Land having general crop adaptability (A1)	11,551	8,990	354	7,036	775	31,647
	Land having limited crop adaptability (A2)	9,434	4,879	---	1,987	---	19,440
Grazing							
	Land having the greatest possibilities for grazing development for home ranch use (R1)	---	---	---	24,710	---	24,710
	Land having secondary possibilities for grazing development for home ranch use (R2)	---	---	---	39,910	---	39,910
	Land on which grazing development should be deferred because of immature forest growth (R3)	---	---	---	19,448	---	19,448
	Land having best possibilities for grazing development for range use without home ranch facilities (R4)	---	---	---	41,202	---	41,202
Recreation and resort							
		---	---	---	---	---	11,616
Marsh (waste)		6,426	---	---	---	---	6,426
Urban and military reservations	3,818	---	95	---	---	4,159	8,072
Total	129,403	79,518	12,160	169,960	33,350	102,150	526,541

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These estimates assume first, the forest lands to be occupied by immature stands averaging 75 percent of normal stocking among which all age classes up to rotation age are equally represented; second, a standard of utilization of 15.6 inches D.B.H.; and third, that the lands are cut in such a manner as to insure satisfactory regeneration. Allowances are made for expected normal losses from fire, insects, and other causes.

The 177.9 million board feet of potential annual growth indicated in table 4 is about 45 percent of the average annual log depletion in the county for the period 1925 to 1938. It is slightly larger than the estimated annual cut for the county, following the completion of logging of the remaining stands of merchantable Douglas fir. The past and future estimated rates of cut, however, are tending toward eventual liquidation of merchantable timber resources; the potential annual growth would be a constant amount around which a stable forest industry for the county could be built.

Obviously, in view of the large extent of cut-over land in the county at present, the potential annual growth could not be attained on all the forest land for a considerable period of years. It appears probable though, that the spruce-hemlock forests on the west slope could approach sustained yield with relatively little readjustment in present forest practices.

When and if the maximum annual growth of 177.9 million board feet is reached for all the forest land will depend largely upon: 9/

- (1) The institution of methods of managing old growth stands that will insure satisfactory and prompt regeneration.
- (2) The improvement of lands now partially stocked.
- (3) The rehabilitation of deforested lands.
- (4) Adequate fire protection.

The School Problem

Decreasing resources and a resulting decline in the tax base are having their effect upon the operation and maintenance of schools. The assessed valuation of school districts in the county has dropped sharply during the last several years while the school load has been maintained. Although rather sharp increases in school load are indicated by the data in table 5, further study of trends in school enrollment since 1920 indicates that this is not strictly representative, since total enrollment in the county is practically the same now as in 1920. The variation in enrollment in individual districts is significant, however. The school districts have been grouped according to areas (fig. 7) and a comparison has been made between the assessed valuation and the number of pupils enrolled for the years 1925 and 1937.

9/ Estimate of staff members of the Pacific Northwest Forest and Range Experiment Station.

BOARD FEET VOLUME of STANDING TIMBER¹
 ALL SPECIES, CLATSOP COUNTY 1933 to 1938 and the
 ESTIMATED VOLUME for NEXT THREE DECADES

*Compiled from data furnished by the
 Pacific Northwest Forest Experiment Station*

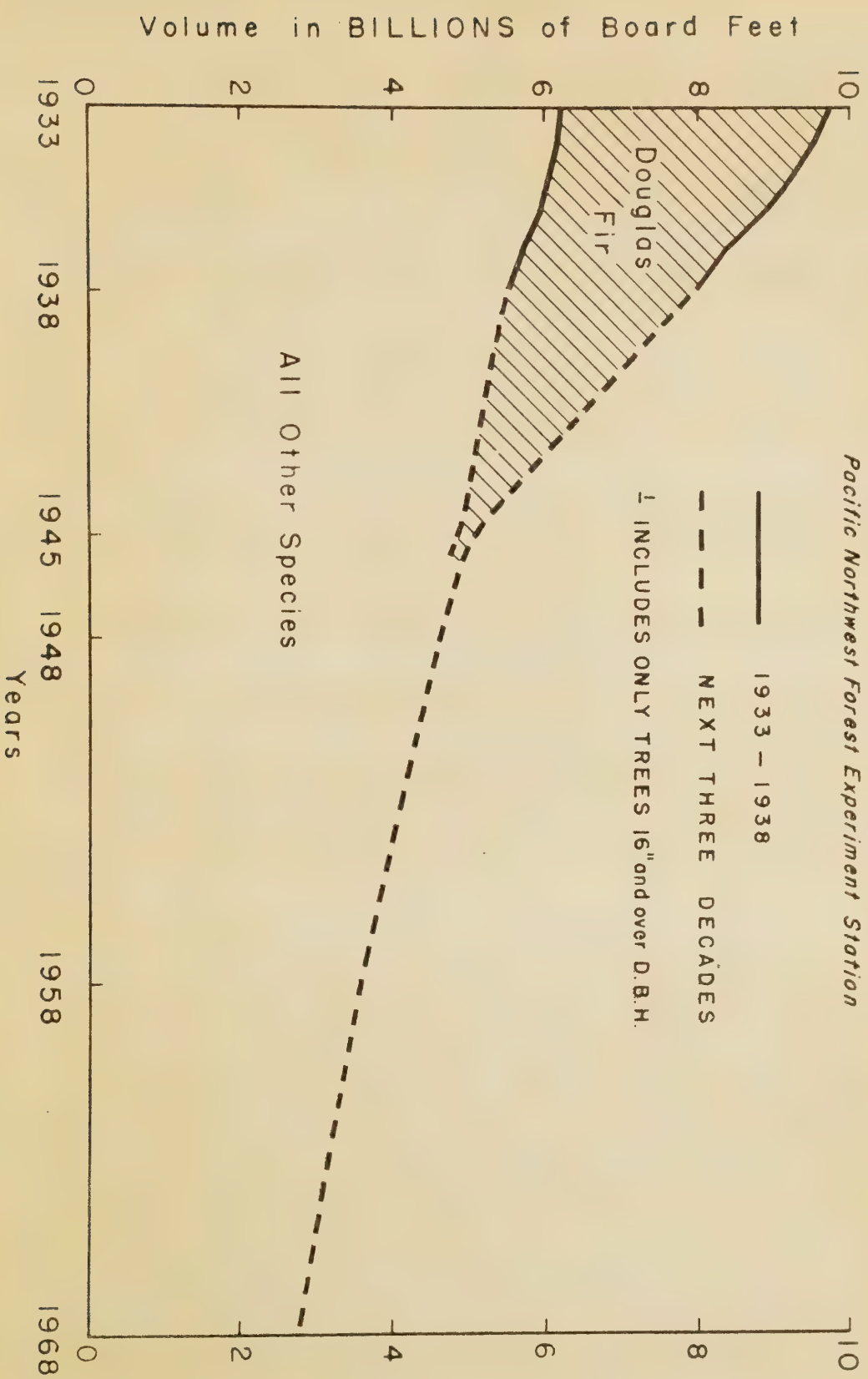


Figure 6

Table 5.--Comparison of the School Load and Assessed Valuation of Rural School Districts by Areas, Clatsop County, for the Years 1925 and 1937. 1/

Area	1925		1937		Enrollment 1937 over 1925		Decrease in	
	Enroll- ment.2/	Assessed Valuation	Enroll- ment.2/	Assessed Valuation	Percentage Increase	Percentage Increase	Total	Assessed
	Number	Dollars	Number	Dollars	Percent	Percent	Dollars	Percent
I	500	5,014,530	627	2,017,971	25	-	2,996,559	60
II	454	2,306,019	350	1,252,814	-	23	1,053,205	54
III	240	1,052,439	291	609,690	21	-	442,749	42
IV	163	12,056,932	280	2,574,191	72	-	9,482,741	79
V	17	717,640	15	185,558	-	12	532,082	74
VI	583	5,519,732	780	3,728,228	34	-	1,791,504	32
Total	1,957	26,667,292	2,343	10,368,452	20	--	16,298,840	61

1/ Does not include district no. 1 (City of Astoria which is strictly urban).

2/ Includes high school students.

Reasons for the heavy decline in assessed valuations are varied. Perhaps the most important for the county as a whole is the decrease of forest capital through logging operations, which is frequently followed by tax delinquency and eventual forfeiture of the cut-over land to the county for unpaid taxes. Some of the decline is attributable to an actual reduction in real values. Incidentally, a negligible portion can be traced to the placing of considerable quantities of cut-over and immature timber land under the State Reforestation Act. This has had the immediate effect of reducing the total assessed valuation on the ad valorem rolls, as these lands are then transferred to the forest fee rolls, but it actually does not decrease the tax charges (revenue) payable to the county by any appreciable amount.

Other reasons are due to local conditions found within certain areas of the county. In Area I, for example, much of the 60 percent decrease in assessed valuations is a consequence of the over-speculation and subdivision of large tracts of land in the vicinity of Warrenton and Flavel. During the period from about 1910 to 1914 these towns were expected to become important port and railroad centers, and city lots in this district were sold in large quantities, the majority of which have reverted to city and county ownership following the failure of anticipated developments to materialize. The striking decrease in assessed values in Area IV as compared with other areas is primarily due to heavy liquidation of forest resources through logging and subsequent loss of cut-over land from tax rolls because of unpaid taxes.

Another example is found in Area VI where the loss of resort properties from the tax rolls has contributed to the decline of assessed valuations. The over-optimism during past years regarding the speculative value of beach property has resulted in excessive taxation in proportion to the benefits of retaining title to the property. Many of these

lands and resort properties have reverted to county ownership and many additional parcels are now in the process of tax foreclosure.

The school districts of the county are faced with other important problems in addition to decreased valuations and increased enrollments. These problems can best be brought out through a discussion of the data found in table 6.

Table 6.--Total Enrollment, Per Pupil Costs, Average Levy and Total Assessed Valuation of Selected School Districts, Clatsop County, 1937-38.

School District	Number	Enrollment	Number of Teachers	Per Pupil Costs, 1/	Average School Levy in Mills 1930-1937	Assessed Valuation Per Teaching Unit	Per District
		Number	Number	Dollars	Mills	Dollars	Dollars
<u>Area I</u>							
Hammond	6	92	3	53.57	26.3	21,000	62,820
Mtn. View	21	12	1	98.32	3.3	63,630	63,630
<u>Area II</u>							
Knappa	40	129	4	55.64	10.7	101,000	404,939
Bradwood-Clifton 2/	33	23	2	96.81	3.3	136,000	273,083
<u>Area IV</u>							
Vine Maple	14	57	2	72.38	5.7	185,000	370,165
Elsie 2/	24	53	2	54.25	1.0	544,000	1,088,650
<u>Area VI</u>							
Morrison	2	64	2	64.68	10.5	88,000	195,251
Necanicum	36	15	1	148.22	5.7	208,445	208,445
Average		56	2	80.48	8.3	168,380	333,373

1/ Less capital outlay.

2/ Two schools operating in district.

A significant fact is brought out in table 6 -- the complete lack of relationship between the total number of pupils enrolled and the total assessed valuation as between districts. For example, district 21 has an enrollment of only 12 pupils and a total assessed valuation of \$63,630 to support the school, while district 6, with practically the same valuation, must support an enrollment of 92 pupils. To do so, its average levy for school purposes for the period 1930 to 1937 was 26.3 mills as against the 3.3 mill levy in district 21 for the same period. In other words, to educate the children it was necessary to levy 8 times as many taxes in district 6 as in district 21 on practically the same amount of property value, yet the actual cost of schooling, per pupil, was almost twice as much in district 21. Similar comparisons could be made between the other districts shown in table 6.

This problem of inequality among school districts, however, is one common not only to the above selected districts and to Clatsop County, but also to the State of Oregon. An increasingly large portion of the money necessary to operate many of the schools is being supplied from State and county school funds to counteract this inequality, which is subject to further accentuation by continued losses in assessed valuation and changes in enrollment. Considerable local interest has been shown in school-district reorganization as a means of equalizing educational opportunities and tax burdens. An Act passed by the Oregon State legislature in 1939 permits the counties to reorganize their school districts. 10/

In a redistricting program, consideration might well be given, in the interests of economy and educational advantages to the children, to consolidating all school districts in each area into one school district with the continued operation of only essential schools within each area. This would eliminate the inequalities in taxation that now exist within areas and make possible the offering of greater educational advantages. Such a plan would reduce the present number of school districts in the county from 29 to 6 (exclusive of the city of Astoria). It would have the advantage of pooling all the resources of each natural geographic and economic area toward the support of its schools, and yet would retain a measure of local democratic control.

This would not result in a complete equalization of the tax burden between the districts; however it would be a long step in that direction. Ordinarily such a program is most successful when it is carried out in connection with a program of increased State aid to the local districts for school purposes. This step has already been taken in the adjoining States of Washington, Idaho, and California, and in many other States as well. The Oregon State Interim Commission on State and Local Revenues, in its report to the Governor and the 40th Legislative Assembly, has urged "that further equalization of common school costs should be provided from a substantial state fund, to be derived from sources other than the property tax." More detailed examination of the possibilities in this direction would seem to be in order.

Another school plan that might merit consideration is one now in effect in Maine where the majority of forest lands in the State are included in an unorganized territory. No organized school districts are included within this forest territory which contributes to the support of all organized districts through a uniform and stabilized tax rate. 11/ If applied on a county-wide basis to Clatsop County, it would be possible to retain the six districts as suggested less the forest lands in each district which would be placed in a seventh unorganized county district.

10/ 1939 Ore. L. Ch. 468. This act provides for reorganization of school districts by a State reorganization commission or by a county reorganization committee subject to review by the State commission. The proposed plan of reorganization may be adopted or rejected by the legal school voters of any school district affected by the plan.

11/ For reference, see USDA Misc. Pub. 218, p. 148.

With the foregoing discussion of a few of the important problems common to all areas in mind, consideration will now be given to some of the relationships involved in the use of the land resources of each area.

Area I. Young's Bay - Astoria

This area embraces the territory drained by the John Day, Lewis and Clark, and Young's Rivers, covering roughly 130,000 acres. The total population of the area (including the city of Astoria with a population of over 10,000) is about 13,280, or roughly 62 percent of the population of the whole county. ^{12/} Farm population, according to the 1935 agricultural census, was slightly in excess of 1,400.

Astoria, the county seat, has important port facilities and mills in addition to being the center of the Columbia River fishing industry. It is the principal city in the county around which much of the industrial and distributive activities revolve. Together with the towns of Warrenton and Hammond, it forms the trading center and natural marketing outlet for the forest and agricultural products of this entire area.

Approximately 85 percent of the area is in forest use, 10 percent in agricultural use, and the balance is urban, military reserves, and waste land. A general picture of the use of the forest land has already been presented.

Present Agriculture. Agricultural land is found for the most part along the river bottoms tributary to Young's Bay and on the adjacent low hills and benches bordering these bottoms. The bottom lands particularly, which are protected from tide action by diking, are quite highly developed. Farming ranges from small part-time units, combination truck crop and dairy units, to large specialized dairy farms. Dairying is the chief type of farming carried on and is frequently combined with grass seed production on some of the permanent pasture land.

Part-time farming is found concentrated largely in the vicinity of Warrenton and close to Astoria between the mouths of the Lewis and Clark, and Young's Rivers.

Truck gardening is becoming important on the lands around Warrenton. Their proper development is handicapped by previous mistakes in the platting and subdividing of these lands which are a part of the incorporated town of Warrenton. Much of the land included in these subdivisions has reverted to county ownership and considerable progress is being made by the county, in cooperation with the city of Warrenton, in the development and leasing of these lands to private individuals in units suitable for agricultural purposes.

12/ 1930 Census of Agriculture.

Isolated Settlement. A few instances of isolated agricultural development are found where insufficient agricultural land is available to justify public service costs. An example is found along Young's River in Township 6 north, Ranges 8 and 9 west. The public and private improvement map (fig. 8) shows 5 rural dwellings in this locality, one of which is abandoned. The total acreage of crop and pasture land as indicated by the present land-use map is only 160 acres. The school formerly operated in this district was consolidated with district 11 in 1937. During the 1938-39 school year, one school child was transported by the parents at the district's expense, a distance of some 5 or 6 miles to the main bus route.

Other scattered, isolated settlements in this area involve about 100 acres of crop and pasture land. While these scattered settlements on nonagricultural lands have not reached serious proportions, they do add to the already heavy county expenditures for roads and schools. In addition, such settlement offers poor opportunities for making a livelihood agriculturally.

Further Development of Agricultural Resources. The potential agricultural land in this area is shown on the area use map (fig. 1). Included are 11,551 acres of land classed as having general crop adaptability, and 9,434 acres having limited crop adaptability. These two classes together represent an increase of about 68 percent over the land now in agricultural use.

Most of the latter class is bench and low-hill land bordering the river bottoms. Care should be exercised in the further development of land of this type. Ordinarily it will not justify clearing for general farming purposes except where it is to be used in conjunction with adjacent bottom lands for the production of pasture, grain, and vetch hay, or for farmstead purposes. Annual cultivation or excessive pasturing should be avoided to prevent erosion.

Other land included in this class is located in the lowland west and north of Warrenton. It is characterized by peat soils which may be adapted to general crops after they have been drained and cultivated for a few years. This land generally has high fertilizer and lime requirements.

A high percentage of the bottom land in this area has already been developed. Some drainage and a limited amount of clearing will be necessary to place the remaining undeveloped land in agricultural use.

Most of the agricultural land in both classes no doubt will continue to be used for dairying which is the most important farm enterprise in the county. A summary of over 100 Agricultural Adjustment Administration farm records for the year 1938, covering over 50 percent of the farm land in this area, showed only about 6 percent of the farms with no dairy stock. The remaining farms reported an average of 12 cows each.

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The minimum sized economic dairy unit is believed to be in the neighborhood of 15 cows. According to these records, farms which carried about this number of cows, averaged around 40 acres of cropland. The amount of noncrop pasture and other lands (usually forest) varied considerably.

The size of farm units in the area as a whole varies according to the location, adaptability, combination of farm enterprises, and opportunities for supplemental employment. Part-time farming at present is primarily dependent upon employment in forestry, fishing, and other industrial activities in and around Astoria for an outside source of income.

With timber resources in a general decline, the prospects for increased employment in this important industry are not bright unless additional timber-processing plants should be established in the area. At present, virtually all pulpwood logs are shipped outside the county for processing, as there are no local facilities for handling pulp. The establishment of a pulp mill locally would add materially to sources of employment both in the mill and in the woods.

The fishing industry has expanded some during the last year or so, because of the discovery of Albacore in the waters off the Oregon coast. This has added to employment particularly in the packing and canning of the product. All things considered, however, only limited opportunity is evident for increase in part-time farming.

Public Services. There are 10 rural schools in operation in this area which in 1937-38 had a total enrollment of 627 pupils. The enrollment within individual districts varied from 11 pupils in district 20, to 241 pupils in the Warrenton district 30 which also includes high school students. Per pupil costs ranged from \$53.57 in district 6 to \$100.15 in district 11, and the average school levy in mills for the period 1930 to 1937 fluctuated from 1.3 in district 13 to as high as 32.3 mills in district 30. These figures tend to emphasize the inequalities existing in the tax burden for the support of schools. The average levy for all the school districts in the area from 1930 to 1937 was 11.6 mills.

Should future agricultural development and settlement be confined to the potential agricultural land as outlined on fig. 1, and with present improved road facilities, it seems probable under the plan previously suggested that the school load could be adequately provided for with schools located at Olney, Warrenton, and the present sites of the Fernhill, and Lewis and Clark schools, districts 18 and 5 C, respectively. It is realized that such a shift would have to take place gradually as suitable facilities could be made available to provide for the increased enrollments in the schools desired for permanent operation.

Other public services in the area, particularly roads, appear adequate to serve the needs of the rural lands for a number of years.

Area II. Knappa - Svenson

This area includes, in addition to the Knappa and Svenson communities, those of Brownsmead, Bradwood, and Clifton, together with the forest land that extends south to the Nehalem divide and east as far as Clatsop Crest. Agricultural land is found along the bottoms adjacent to the Columbia River and tributary streams and on the bench lands between Knappa and Svenson. Tenasillahe, Karlson, and Svenson Islands also contain agricultural land. The remaining islands bordering along the Columbia are mostly low marshy wastes that are usually covered by water during high tide.

The population is about 1,600 people; they are employed in agriculture and forestry. The 1935 farm population as reported by the census was 893. Over 40 percent of the farm operators of that year were employed off the farm for nearly 6 months. A large part of this employment was in the forest industry which points to the interrelationships that exist between the agricultural and forest economies of the area. Each plays an important part in the support and stability of the communities that are established.

Forest. Only about 18 percent of the merchantable stands of timber remain on a total of about 67,000 acres of forest land. Large blocks of this land have already reverted to county ownership after removal of the timber, and many additional lands are in process of foreclosure. In view of the limited supply of saw timber, the principal mill in the area, which has depended upon its own logging operations for sawlogs, will soon be forced to buy its supply on the Columbia River market or abandon operations. Should the latter occur, it will seriously affect not only the forest industry of the area, but the farming as well, for many farm operators are dependent upon forestry for part-time employment.

Agriculture. Approximately 7,000 acres are now in agricultural use. As is characteristic of most of the county the predominant type of farming along the tide flats and stream bottoms is dairying. This enterprise is combined in some instances with vegetable crop or grass seed production.

Part-time farming is common on the bench lands between Knappa and Svenson. The poultry enterprise appears to be the principal source of income from this district and in many instances it reaches commercial proportions. More than 13,800 acres of land in this area is potentially suited to agriculture. About 9,000 acres are bottom lands having general crop adaptability and the remaining 4,800 acres are of the benchland type.

Considerable quantities of this latter type are in the cut-over stage or are supporting scattered stands of coniferous second-growth or lowland hardwoods. The soil on this benchland located between Knappa and Svenson is generally shallow and much of it is underlaid by cemented gravel subsoil at a depth of about 18 to 24 inches. Because of this condition it is limited in its adaptability to such specialized types of agriculture as poultry. A limited acreage of this land bordering the bottoms will no doubt be used in conjunction with those lands as farmstead sites and for supplemental forage purposes.

The extent to which part-time farming will prevail as a means of utilizing these benchlands will depend upon the availability in the area of labor-employing industries. Apparently the exploitation of present timber stands will decrease rather than increase the possibility of a large acreage being used for this purpose, as the opportunities for part-time employment seem definitely on the decrease.

Public Services. The area is well served with public facilities, including the Columbia River Highway (Federal Highway No. 30) and improved gravel roads. A branch line of the S.P. & S. Railroad, which operates between Portland and Seaside, also transverses the area along the Columbia.

Six elementary schools and one union high school are in operation in the area. Two schools are open in district 33, one at Clifton and the other at Bradwood. Four of the 6 elementary schools have only one room, and the total enrollment of all 6 was 259 in 1937-38.

The school children of the area as well as the lands potentially suited to future settlement are fairly well concentrated. If the "one" school district plan for the area were adopted, it would seem that the requirements for school facilities could be adequately met with one school for the Bradwood and Clifton communities, and another centrally situated for the remainder of the present districts. These latter districts are already completely served by transportation facilities, and the high-school students are now being transported to a centrally-located union high school.

Area III. Westport.

Area III is located in the extreme northeast corner of the county between Clatsop Crest and the county boundary, and extends southward to the Nehalem Divide. Within the area are the two communities of Wauna and Westport which are almost entirely supported by mills and other forest industries. Farming is very limited and is confined to the bottom lands in the immediate vicinity of Westport. Most of the remaining land is too rough and steep to be used for other than forest purposes. The total area involved is a little over 12,000 acres.

Geographically and economically speaking this area belongs in part to Columbia County since it forms a portion of a natural area, the greater portion of which lies across the county boundary.

The population of the area, as reported by the 1930 census, was about 1,200.

Forest. The merchantable forest resources of this comparatively small area are in even a more depleted condition than are those in Area II. About 16 percent of the old growth stands remain. Nearly 75 percent of the forest lands are supporting immature forest growth -- largely seedlings and saplings under 6 inches diameter breast high. Approximately 30 percent of all the land is county owned.

Most of the sawlogs now used by the mills at Westport and Wauna come from outside the boundaries of Area III. The Westport mill obtains logs on the Columbia River market while the mill at Wauna still gets logs from its own cutting operations. 13/

Agriculture. Agricultural land in this area is very limited from the standpoint of both present use and potential development. The 1935 Agricultural Census reports only 14 farms. These vary in character from subsistence or part-time farms to small dairy units. Fifty percent of the operators worked an average of 195 days off their farms in 1934.

The total potential agricultural land is about 350 acres of which approximately half are now in farm use. These lands form a part of a much larger agricultural district across the Columbia County line.

Public Service. Elementary schools are operated at Wauna and Westport and a high school is located at the latter place. The Westport schools are operated jointly by district 7 J and the adjacent district in Columbia County, which is evidence of the close relationship between Area III and the adjoining lands in Columbia County.

When the few remaining stands of commercial saw timber have been cut, the burden of support for the schools and other public services will be placed almost entirely upon the mill properties and the public utilities now servicing the area. Continued reduction of the tax base, as indicated in table 5, will result in greatly increased taxes on these properties to meet public service and other local governmental costs. There appears to be little possibility in the near future of the tax burden being shifted so that the forest properties will contribute materially to these costs. Such a shift will depend chiefly upon the proper protection and management of the forest lands so as to insure additional crops of timber. It should be pointed out also that upon the future of the forest lands in this and other areas depends the continued operation of the mills at Wauna and Westport.

Under a plan of consolidating the area into one large joint school district, it would seem that in the long run more efficient and economical schooling could be provided if all the school children were transported to the Westport schools. This will merit increasing consideration as the timber supplies in the county become scarcer.

Roads and other public facilities mentioned in Area II extend through this area. They are believed ample to serve the people and resources of this district.

13/ "Forest Statistics for Clatsop County" Pacific Northwest Forest and Range Experiment Station, July 15, 1938.

Area IV. Elsie - Jewell.

This area comprises that part of the Nehalem River watershed lying in the southeastern part of the county and includes a total of about 170,000 acres. It is bounded on the north and west by the divide of the Coast Range and on the south and east by the county boundary. The area is predominately cut-over forest land with scattered remnants of mature Douglas fir timber now in process of being logged. Relatively small tracts of immature forest growth are also found scattered among large tracts of nonrestocking old cut-over and burned-over land and more recently logged lands. Narrow strips of agricultural development border along the Nehalem River and its tributaries.

According to the 1930 census there was a total population in the area of 2,164; however, the completion of logging operations in many sections is believed to have reduced the present number of people living in the area to well below this figure. A considerable portion of the population is located in the several logging camps still being operated in various localities and in the small communities of Elsie and Jewell. Farm population in 1935 was 427.

Forest. As this area involves some of the most important land-use problems to be found in the county, a more detailed discussion of the forest situation seems warranted. The forest resources of this area were originally the most valuable in the county. Less than 23 percent of the forest land as shown in table 1 remains with virgin timber stands and these are rapidly approaching complete exhaustion. ^{14/} Estimates in fig. 6 indicate that at the present rate of log depletion all merchantable Douglas fir will be gone by 1945, or shortly thereafter. During the past several years many acres of valuable saw-timber stands have been ravaged by fires which have also swept through adjacent young growth and cut-over lands, destroying the young forest reproduction upon which future timber crops are dependent. More than 87,000 acres, or about 53 percent, of the forest lands are recent cut-overs, nonrestocking cut-overs and nonrestocking burned-over land. Some of the cut-over lands were logged before 1920 and the majority before 1930, but repeated burns have left many of them virtually denuded. Natural reforestation of such lands, even with proper fire protection, would probably be an extremely slow and unsatisfactory process.

These conditions are reflected in the instability of private ownership in this area. Over 34,000 acres, or 20 percent of the forest lands, are county-owned and nearly 20,000 additional acres are now in the process of tax foreclosure. In addition, indications are that several of the timber operators, whose taxes are paid, plan to deed to the county large quantities of cut-over land without letting them pass through tax-foreclosure proceedings, thus saving the county the costs of tax delinquency proceedings. It would therefore appear that practically all forest lands in this area are destined for county ownership within a comparatively few years.

^{14/} Large blocks of this virgin timber have been logged since the original forest data were compiled by the Forest Experiment Station in 1937.

The immediate economic future of this area, as well as that of the county which has looked to this section for a considerable share of its tax revenue to meet present county expenditures, will be seriously jeopardized unless other sources of income can be found. The ever-increasing acreage of cut-over forest land and the rapidly diminishing tax base have awakened considerable interest during recent years in the possibility of converting some of this land to grazing use, thereby increasing the industry and income of the county without the necessity of waiting the 80 to 100 years normally required to grow a new crop of commercial timber.

Grazing. The development of cut-over lands for grazing use in Clatsop County has been of little consequence as a commercial livestock venture. During the County Agricultural Outlook Conference in 1936, the county land-use committee made the following suggestions and recommendations regarding the use of cut-over lands for grazing purposes:

"Much attention has been given to the problem of grazing on logged-off lands, seeding of grasses on these lands, and their proper management. While such grazing and seeding is recommended, knowledge of the proper methods of seeding and of grazing management and of the effect of such management upon tree growth is not adequate. It is suggested that the Clatsop County Court set aside one or more areas of county-owned logged-off lands as experimental areas to determine the best use of such lands. It is further recommended that the County Court in establishing and maintaining such experimental areas obtain the assistance and cooperation of the various departments of the Oregon Agricultural Experiment Station and particularly the John Jacob Astor Experiment Station."

Following up the above suggestions and recommendations that same year, the County Court, through the cooperation of the Oregon Agricultural Experiment Station and the State Board of Forestry, assisted by an appropriation by the State legislature, was successful in establishing an experimental grazing area involving about 830 acres of county-owned land in this area, situated mainly in Section 9, Township 6 north, Range 6 west. Valuable information is being secured on seeding practices, methods of range and livestock management, and the relative merits of various forage plants for range use, as a result of the many experiments now under way. It will be a number of years, however, before many phases of the whole problem can be adequately tested.

The lands within this area classed as having possibilities for grazing purposes total about 125,000 acres (table 3). However, approximately 19,500 acres are in a deferred classification because of present immature forest growth which is of sufficient value to warrant protection until it matures and is harvested. The remainder, of around 105,500 acres, is divided according to available information and knowledge as to its relative merits for grazing development. The rapidity and extent to which attempts will be made to develop this acreage for

grazing use will depend upon the economic demands of the livestock industry and the availability of breeding stock acclimated to the area, as well as upon the economic success of establishing and maintaining suitable forage grasses. The available supply of satisfactory grass seeds also may become a limiting factor in the rate of development.

Agriculture. Present land-use acreages in table 1 show that about 50 percent of the bottom lands have been cleared for farming purposes. These lands are devoted almost entirely to dairying, although a limited acreage is used in the commercial production of grass seed. The potential agricultural lands, which total about 9,000 acres, are all located along the Nehalem River or close to the mouth of tributary streams. Of this extent, about 7,000 acres are classed as having general crop adaptability and the remaining 2,000 acres as having limited crop adaptability. These latter lands consist mainly of the foot slopes and low hills that lie adjacent to the agricultural bottoms, most of which are cut-over, although only very small parts of them have been cleared. Their adaptability is limited primarily to pasture or grain hay crops. If they can be successfully established and maintained in forage grasses without the necessity of heavy clearing costs, it would appear that their clearing for farm use would be justified only if there is a particular need for the land to complete farm or ranch units.

The future use of the agricultural land in this area is closely associated with the development of grazing on the cut-over lands. Successful utilization of the range land will be dependent upon these agricultural lands for a source of winter feed supply. As the range land would be unadapted to large-scale grazing by dairy stock, a major shift would be required in the type of farming from dairying to a range livestock enterprise.

Although information is meager on the probable carrying capacity of the grazing lands under proper development and management, estimates by members of the staff of the Oregon Agricultural Experiment Station and local stockmen range from 1 to 2 sections of land per 100 animal-units ^{15/} for an 8-to 10-months grazing season. Winter-feed requirements have been conservatively placed at 1 ton per animal-unit. Based on an average production of 2-1/2 tons of hay per acre, which is common on bottom lands in the Nehalem Valley, approximately 40 acres of cultivated land would be required for each 1 to 2 sections (640 acres per section) of grazing land to provide adequate winter feed.

The potential agricultural and grazing resources exclusive of the deferred grazing lands, if fully and successfully developed would provide for a maximum of about 16,500 animal-units of livestock, in accordance with these estimates. The minimum sized economic grazing unit for this area has been estimated at 100 animal-units, although it is probable that the average size of operating unit will be somewhat larger.

15/ One animal-unit is equivalent to 1 cow, 2 steer, or 5 head of sheep.

Public Services. All agricultural portions of the area as well as a large part of the forest lands are served by the new Wolf Creek Highway and State Highway 202 with a connecting road between Elsie and Jewell.

School facilities are provided by 6 elementary schools and 1 union high school which is located at Jewell. Two schools are operated in Elsie district 24, one being of a temporary nature for the benefit of a logging camp. The Camp McGregor school in district 40 also may be considered a temporary one as it serves logging operations that have only a very limited supply of timber.

The total enrollment in all the elementary schools during the school year 1937-38 was 228. Should future agricultural development and settlement be confined to the Nehalem Valley, schools located at Elsie and Jewell would appear to be sufficient to take care of the needs.

Area V. North Nehalem.

Area V, situated in the southwestern part of the county, is a natural part of the Nehalem Bay district of Tillamook County. The area takes in the drainage of the North Fork of the Nehalem River south of Hamlet which includes a total of 33,350 acres, most of which is forest land. The narrow strip of agricultural land found along the river in the lower portion of the area emerges into a much larger agricultural district south of the county line. The natural trading center for the relatively few residents is also located in the small towns near Nehalem Bay.

Forest. Approximately 36 percent of the forest land retains stands of merchantable timber. Most of this is Douglas fir which is now being heavily logged. Cut-over and burned-over lands already represent well over 40 percent of the area. Publicly-owned lands make up a little less than 13 percent of the area, half of which is in county ownership, the remainder being divided between State and Federal ownership. Lands now in the process of tax foreclosure, however, are sufficient to double the present acreage of county lands.

Agriculture. Less than 200 acres of bottom land have been developed for farming purposes. Although two or three dairy farms are in evidence, most of the places have little more than garden spots cleared.

Public Services. Federal Highway 101 passes through the center of the area, providing important transportation facilities. The area is also served by a 1-room school operated by district 41.

Table 5 shows that the assessed valuation of this district dropped from \$717,640 in 1925 to \$185,558 in 1937, a decrease of 74 percent.

Heavy logging operations in the present merchantable timber stands and the relatively small acreage reproducing as compared with the extent of cut-over and burned-over land are indicative of a still further drop in assessed valuation.

As Area V forms a logical and integral part of the lower Nehalem Valley in Tillamook County, consideration should be given to the consolidating of Area V as a joint school district with the Nehalem District in Tillamook County. With only 775 acres of potential agricultural land in the area - the equivalent of approximately 15 farms - it is questionable whether there is justification for the continued maintenance of a school here. This is substantiated by the present high costs per pupil (\$165.97 in 1937-38) in district 41 as compared with the majority of other districts in Clatsop County.

The school children now in the area are located near the lower boundary within transporting distance of the Nehalem school which operates a bus to the Clatsop County line.

Area VI. Seaside - Necanicum.

Area VI lies along the west side of the county and includes all of the coastal beach together with the Necanicum River drainage and the upper part of the North Nehalem drainage as far south as Hamlet. It includes in all a total of 102,150 acres. It is somewhat different from other areas in the county. Although timber interests are of great importance, the area is dominated mainly by the recreational and resort development along the coast. The use of the agricultural lands in the area is closely associated with this development as it furnishes a local market for most of the farm produce.

Centers of urban development and recreational interests are Seaside, Gearhart, and Cannon Beach. The total population of the area in 1930 approximated 2,700.

Forest. A discussion of the forest resources of this area and those of Area I occurs elsewhere in this report.

Agriculture. The developed agricultural land is found concentrated chiefly on the bottoms close in to Seaside and along the highway north toward Astoria. It is mostly devoted to small farms for producing dairy and poultry products, truck, and other specialized crops.

About 6,000 acres of potential agricultural land are included in the area of which approximately 3,100 acres are classed as having limited crop adaptability. These latter lands are largely peat soils varying in degree of decomposition, depth, drainage, and development. Some are well adapted to cranberry and blueberry culture but such an enterprise requires specific soil, drainage, and moisture-control conditions, and it is therefore essential that a careful and detailed investigation be made of each location before any development. Some have sandy soils and are adapted to the poultry enterprise. The soils in general are highly acid and their successful use for farming depends upon the regulation of this condition through use of lime and fertilizers and the selection of crops adapted to the soils.

The narrow strip of bottom land out along the Necanicum River is relatively undeveloped and it would take heavy clearing operations in most instances to bring these lands into agricultural use.

Isolated Settlement. An important example of isolated settlement in Clatsop County is found in the Hamlet community located in the northwest corner of Township 4 north, Range 8 west, about 5 or 6 miles off the main highway. Some 7 or 8 families live in this locality. The total land developed for agricultural purposes is less than 100 acres, which is insufficient to warrant the cost of maintaining roads and schools for these people alone.

Closing of the Hamlet school for the past 2 or 3 years is evidence of the probable decay of the community. The relatively few school children living in this district are being sent to the Seaside schools; the Hamlet district pays their tuition and the cost of their room and board while in Seaside. Settlement of small, isolated communities of this character frequently becomes burdensome to other taxpayers of the county who must help in providing them with public services. Moreover, in most instances such isolated locations do not lend themselves to successful farming because of poor soils, distance to market, or other limitations.

Recreational and Resort. Lands utilized for recreational and resort purposes consist primarily of the beach lands extending almost the full length of the seacoast of Clatsop County. Golf courses have been laid out and cabins and other structures designed to meet the needs of vacationists have been built on many adjacent properties. The area plays host annually to thousands of summer vacationists and tourists who seek recreation along the shores of the Pacific.

With the completion of the new route of the coast highway along Cannon Beach and the Wolf Creek cut-off to Portland, this area is destined to become increasingly more important from a recreational and resort standpoint. The Wolf Creek highway will shorten the present distance to Portland by about 30 miles and give the beaches in this county an advantage in distance from that important population center.

But in certain places along this natural playground many of the recreational values are being seriously impaired by the improper use of the land. On the sand dunes north of Gearhart and west of the main highway, over-grazing and attempted cultivation have destroyed the cover, resulting in damage to many beach-resort properties and adjacent agricultural and forest lands are jeopardized by the shifting sands. These extensive areas of drift sand are now being stabilized by special costly treatment under the program of the Soil Conservation Service.

Such treatment can well be justified but definite steps should be taken to prevent further misuse of the land and the recurrence of such conditions as existed before the present program of stabilization. Public ownership or control through legislation of those portions of these

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lands that are susceptible to grazing or cultivated agricultural use offers a means of preventing uses that are not in the best interests of the general public. Much of this land is in county ownership; the county court, upon the recommendation of the county land use committee, has taken steps to acquire additional lands to prevent their misuse.

It would seem desirable that steps be taken also to perpetuate timber stands along the highways and portions of the seashore to protect important scenic values. This may require cooperative effort on the part of the county, the State Board of Forestry, and the State Highway Commission in a program of exchange of county and State lands for timber lands in private ownership. Most of the forested slopes of scenic Tillamook Head are in private ownership.

Public Services. Paved highways (fig. 8) serve all the agricultural and recreational portions of the area with both the Coast Highway and new Wolf Creek Highway (short cut to Portland) providing transportation. Railroad facilities are available as far south as Seaside which is the terminus of a branch line of the S.P. & S. Railroad from Portland.

There are six elementary schools and one union high school at Seaside,

Under the proposed plan of consolidating all lands of the area into one school district, the matter of choosing the location of permanent operating units may require more consideration here than in some of the other areas. This fact is due to the scattered nature of settlement in certain localities and the extent of undeveloped land potentially suited to agricultural use. In some instances distance limits the transportation of children of elementary school age. This is a problem in connection with the school operated in district 36, which has a low enrollment and high per-pupil costs. As additional land in this district is developed for agriculture there may be added justification for maintaining a school in this locality.

In view of the close proximity of district 2 to Warrenton it is possible that this district should be included with Area I and the pupils transported to the Warrenton school.

The proposed change of the coast highway route along Cannon Beach and the probable increased commercial activity and development within that vicinity may later create a need for elementary-school facilities at Cannon Beach. It is believed that all other school children within the area could be advantageously transported by bus to Seaside.

County Outlook

Further insight as to the present status and trend in county finances might be helpful in determining what probable effect the foregoing changes in land use would have upon the future welfare of the county.

Financial Condition of County

Distribution County Tax Base. Fig. 9 shows graphically the general trend and distribution of the county tax base during the period 1926 to 1937 inclusive, as worked out in cooperation with the county assessor. The total decrease of the taxable value of forest property (including saw mills, etc.) during that period was roughly 13 million dollars as compared with an 8-million-dollar decrease in all other sources of taxable wealth. Expressed in percentages, the forest resources of the county in 1926 represented slightly over 50 percent of the total taxable wealth of the county, while in 1937 they had declined to less than 36 percent. To compensate for this loss in revenue from the decrease in forest values, as indicated in fig. 10, a proportionately greater burden has been placed on other taxable property.

Tax Collections. Tax collections in Clatsop County for the past several years are little different than what might be found in other counties. During the depression years of 1931 to 1933 the collection of current taxes dropped to a low of 40 percent of the levy (fig. 11). In the recovery period which followed, the current collections increased rapidly, and by 1937 were about 83 percent of the levy; this was slightly higher than collections during the pre-depression years. The collection of back taxes also increased from 1934 to 1937 which compensated in large measure for the unusually heavy delinquencies caused by the depression.

The average of all collections during the years 1926 to 1937 was apparently between 80 and 85 percent, which would indicate that from 15 to 20 percent of the property value of the county each year is chronically tax delinquent. This is borne out by the fact that over 58,000 acres of rural land is county-owned and nearly 40,000 acres additional are now in the process of tax foreclosure. The total amount of all delinquent taxes on December 31, 1937 was 3.3 million dollars ^{16/} which was second highest among all counties in the State and more than three times as great as the total county tax levy for 1937.

Tax Levies. The distribution of the tax levy in mills on the equalized rural valuations for the period 1910 to 1937 is presented in fig. 12. ^{17/} The heaviest expense to the taxpayers of Clatsop County, as might be expected, is for the support of its schools, which in 1937 amounted to 37 percent of the tax levy on the equalized rural valuation. From the standpoint of cost, next in the order of importance was indebtedness for the port district, which required 24 percent of the levy. This was followed closely by roads, with 21 percent, and county expenses, with 18 percent. Although the general tendency in recent years has been for the levy in mills to remain fairly constant on the above items, actually there has been a considerable decrease in expenditures as the levy has been made on a declining tax base.

^{16/} Fourteenth Biennial Report of the State Tax Commission, 1939.

^{17/} Fig. 12 based on information taken from "Public Expenditures in Oregon," Oregon Exp. Sta. Bull. 346 and unpublished data collected by W. H. Dreesen, June 1936.

PUBLIC AND PRIVATE IMPROVEMENTS

PRIVATE BUILDINGS, SCHOOLS, RAILROADS AND HIGHWAYS

0 1 2 3 MILES
SCALE
JULY 1937

BAC



A LAND USE STUDY OF CLATSOP COUNTY OREGON

BY

LAND USE PLANNING SECTION RESETTLEMENT ADMINISTRATION
COOPERATING AGENCIES: WORKS PROGRESS ADMINISTRATION
-OREGON STATE PLANNING BOARD-CLATSOP COUNTY-
PLANNING COMMISSION-OREGON AGRICULTURAL EXPERIMENT
STATION-PACIFIC NORTHWEST FOREST EXPERIMENT STATION

W.P.A. PROJECT 1062

OP 65-94-1230

PRINTS OF THIS MAP MAY BE OBTAINED AT COST OF REPRODUCTION

LEGEND

- | | |
|-------------------------|-----------------------|
| ■ TOWNS AND URBAN AREAS | • RURAL RESIDENCES |
| — PAVED ROADS | ✂ SCHOOL |
| — GRAVELED ROADS | ⌘ STORE |
| — DIRT ROADS | ⌘ COMMUNITY HALL |
| --- PROPOSED ROADS | ▲ SAWMILL |
| — RAILROADS | ✂ CHURCH |
| □ PARK OR RESERVE | ○ CEMETERY |
| ⬢ ABANDONED BUILDINGS | ■ GROUPS OF BUILDINGS |

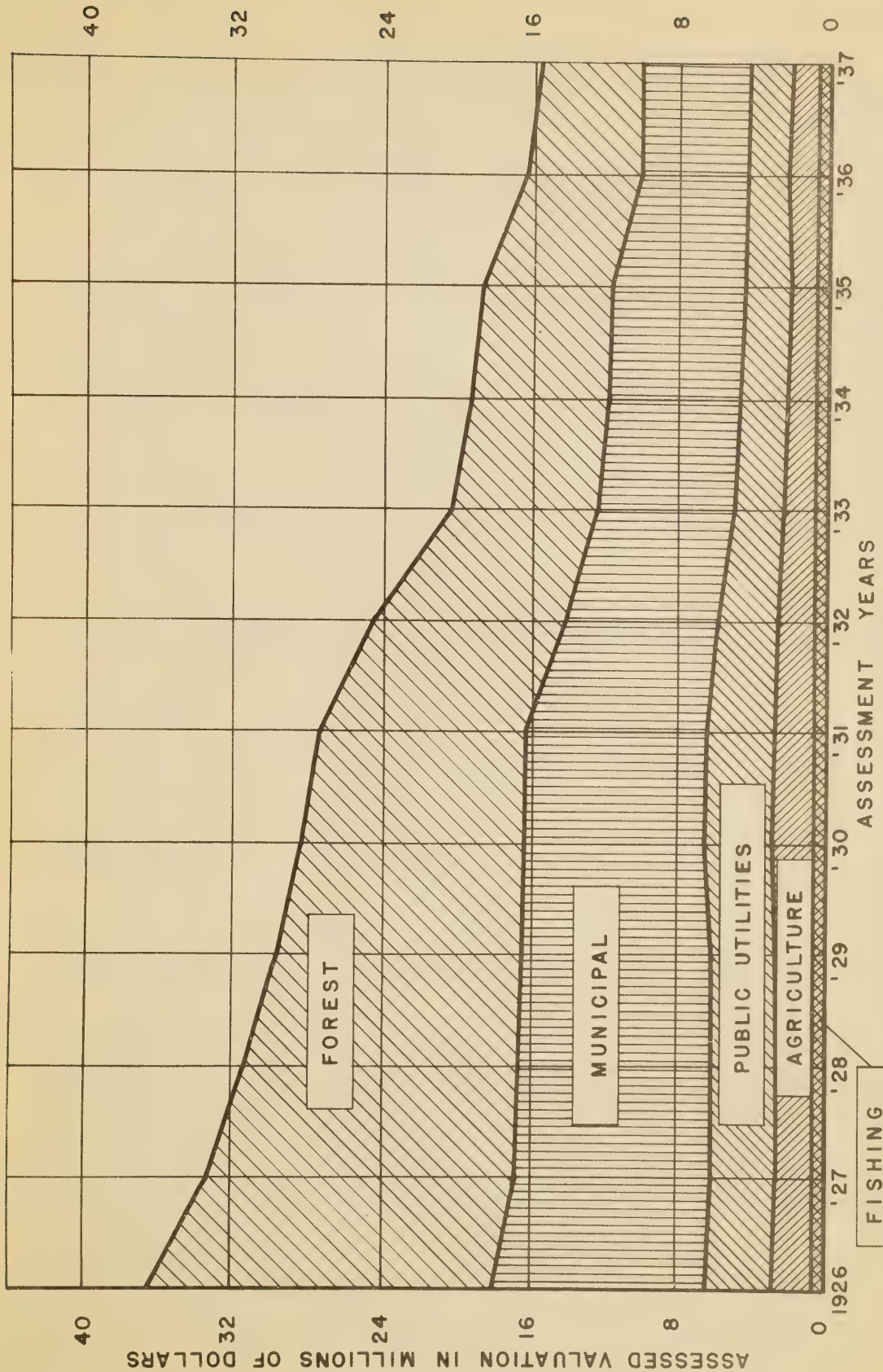
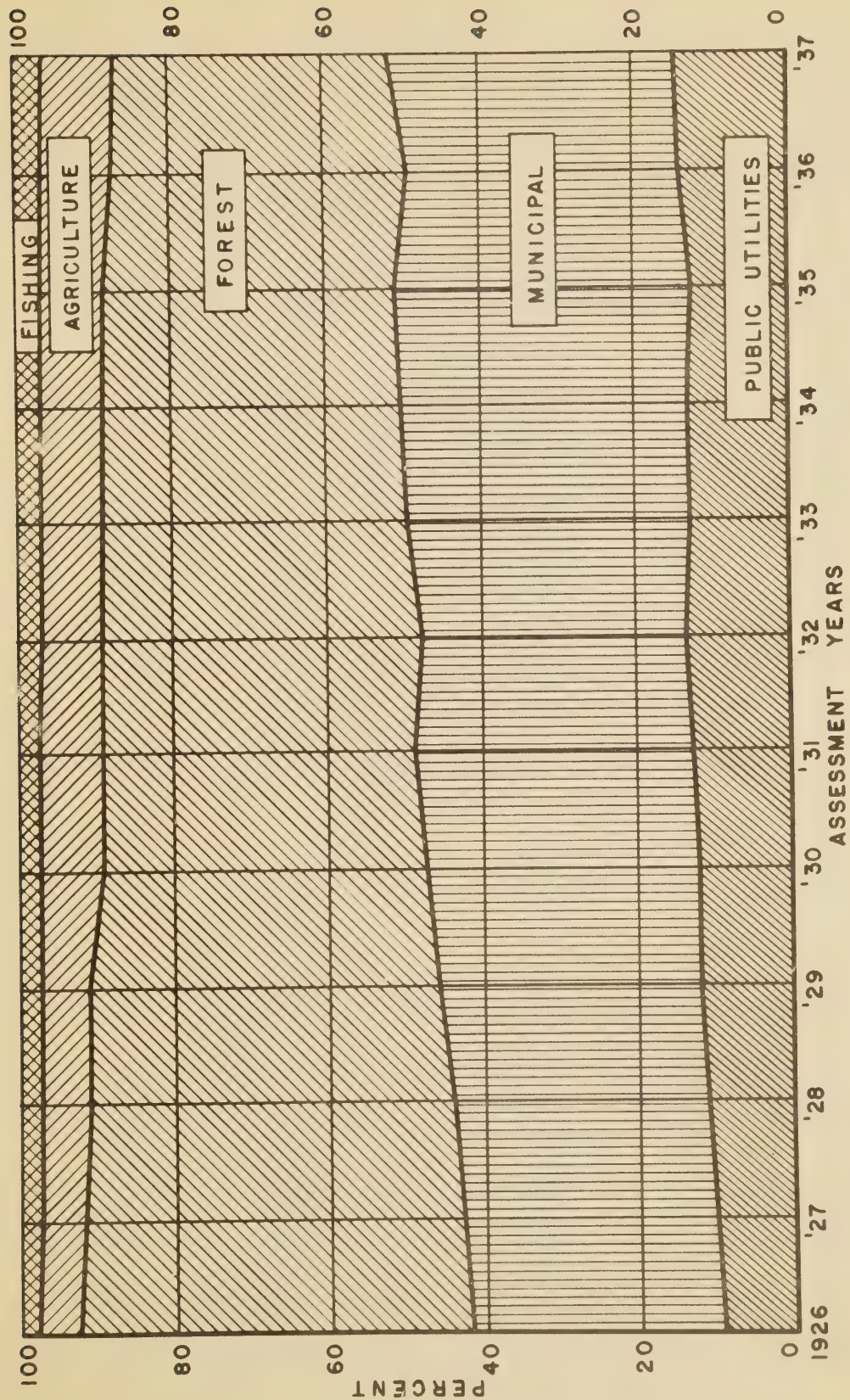


Figure 9

TREND AND DISTRIBUTION - CLATSOP COUNTY TAX BASE 1926-1937



PERCENTAGE DISTRIBUTION — CLATSOP COUNTY TAX BASE 1926—1937

Figure 10

Figure II

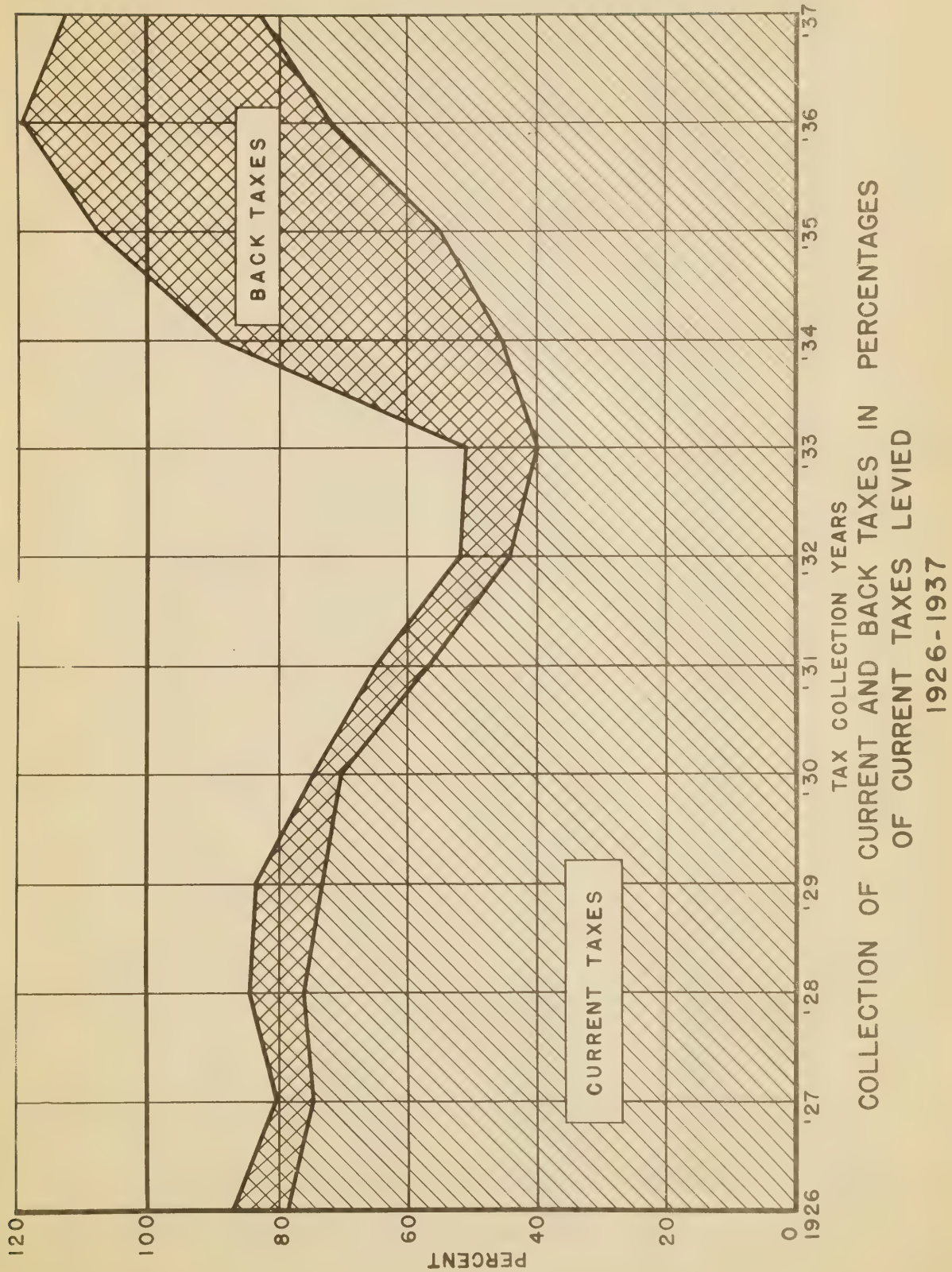
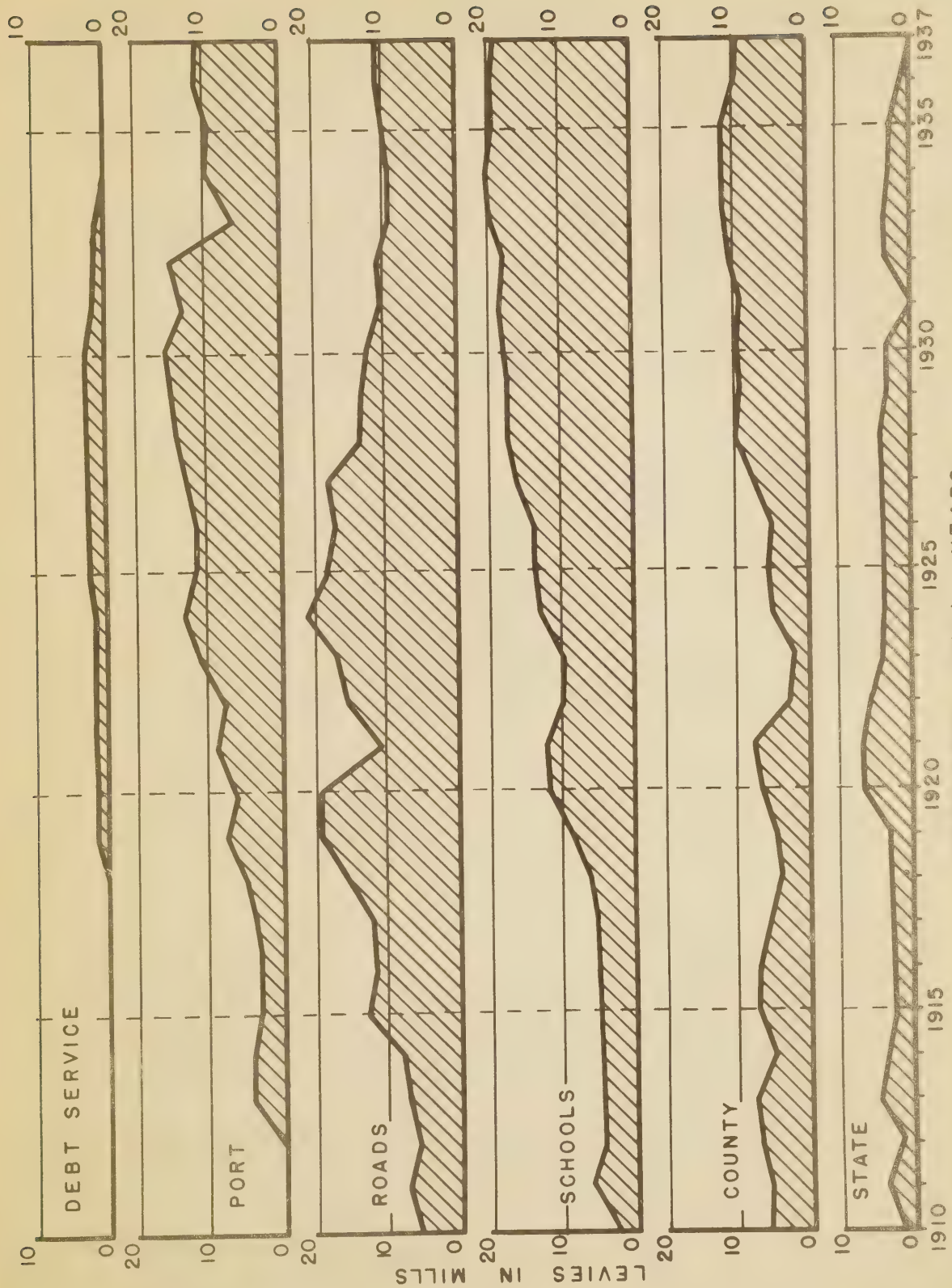


Figure 12



TAX LEVIES IN MILLS ON EQUALIZED RURAL VALUATIONS
CLATSOP COUNTY 1910-1937

The total tax levy dropped from 2.2 million dollars in 1927 to slightly over 1 million dollars in 1937, a saving to the county taxpayers of nearly 54 percent in tax expenditures over a 10-year period. This saving, so far, has kept pace with the reductions in assessed valuation which declined a total of 53 percent during the same period. Under the present rate of decline it is a question how much longer this ratio can be maintained and the county operate on an efficient basis.

This leads to a further consideration of needed adjustments to combat effectively the present vise-like tendencies which threaten to squeeze out the economic life of the county. The avenues through which such efforts may be directed are limited to (1) the possibilities of making additional savings of tax money consistent with efficiency of administration and operation, (2) changes in the system of taxation that will provide revenues from sources other than the property tax, and (3) the potentialities for increasing the income of the county.

Possibilities for Adjustments in Tax Expenditures.

Schools. The maintenance and operation of schools is the most costly tax item in the county. Improvements in school systems, in general, have failed to keep pace with developments in roads, transportation facilities, and other economic developments. The pattern of many school-district boundaries (fig. 7) is doubtless a result of original efforts to distribute the available tax base. Logging operations, new development, and shifts in land use have combined to make widespread inequalities in the tax base of the present districts and in the number of children to be schooled. In recognition of this problem, which exists throughout most of the State, the State legislature during the 1939 session passed a law authorizing county reorganization of school districts. 18/

Suggestions for the reorganization of the school districts of Clatsop County based on available physical, economic, and social data have already been presented in connection with the area discussions. It is fully appreciated, however, that to carry out these suggestions will require an unselfishness of purpose and a high degree of cooperation among local people.

In addition to ironing out much of the inequality in taxation that now exists, perhaps the most important feature that can come out of the suggested reorganization is the greater advantage that can be afforded to the school children through larger operating units. Although the money spent for transportation would amount to a sizable portion of the school costs, the increased efficiency, due to larger enrollments per teacher, should enable some of the schools to operate at a lower unit cost.

Roads. A well-organized network of roads now supplies adequate transportation facilities to most of the county. Any program for the extension of this road system should be closely associated with the

future land policy of the county. The character of new roads should depend largely upon the best long-time use of the lands they serve -- for example, in forest or grazing areas roads would be used primarily for administration and protection purposes. The type of road and consequently the initial cost and maintenance would be entirely different from year-round roads in permanent agricultural areas.

Port District. As the port district for the Port of Astoria includes the entire county, its bonded indebtedness is of considerable importance to the taxpayers. The bonded indebtedness and total debt of the port district on July 1, 1938 was \$3,163,900. ^{19/} A refunding bond issue dated January 1, 1937 for this amount, bearing 3-1/2 percent interest, matures January 1, 1965. If this indebtedness were to be amortized by the date due, it would require an annual payment of approximately \$188,000. The annual levy in taxes for the port district since 1934 has been in the neighborhood of \$175,000. If this amount were to be paid each year, it would require 31 years or until 1969 to amortize the debt. However, owing to the present rate of decline in the tax base, such a payment would necessitate greatly increased millage levies which already reach nearly one-fourth of the total levy on the equalized rural valuations. In view of the circumstances, it would seem desirable that some plan of amortization, based on the anticipated ability of the county to pay, be worked out with the bondholders whereby the county could liquidate this indebtedness with the least possible financial hardship on the taxpayers.

Possible New Sources of Revenue.

It has been amply demonstrated that in Clatsop County, as in many other places, the almost complete dependence upon the general property tax has resulted in great inequalities in tax burdens as between individuals and occupational groups, a particularly heavy burden on agriculture, extreme variations in the quality of school and other public services, and arbitrary limits to the extension of vital public functions.

There seems to be general agreement that further revenue needs cannot or should not be satisfied by means of the property tax -- in fact, there are many theoretical and practical arguments for some reduction in tax rates. On the other hand, there is no evidence that Clatsop County is incapable of a constantly improved type of public service. Available statistical evidence points to an income position for residents of Clatsop County that is well above the average for the State and suggests the need for new taxes, other than property taxes, which will be more productive, more equitable, and at the same time will assure some needed relief to property. Such new taxes could be administered efficiently only on a State-wide basis. Such changes in the tax structure would make possible the assumption by the State of greater financial responsibility for schools, roads, and public assistance.

^{19/} Biennial Report of the State Treasury, 1936-38.

It appears, therefore, that the next step in modernizing the tax structure is one that must be taken in conjunction with State authorities and with the other counties that are invariably in a similar position. Recommendations in regard to the modernization of the tax structure are to be found in the January 1939 report of the Oregon State Interim Commission on State and Local Revenues. Specific recommendations of the Commission include: (1) State evaluation of forest lands; (2) State supervision of tax collections and foreclosures; (3) State cooperation in acquisition and management of tax reverted lands; (4) equalization of taxes for common schools; (5) full State responsibility for cost and administration of public assistance; (6) State tax on gross income of retail firms with personal property offset.

These recommendations are in line with progressive steps taken in other States, and should prove of special interest to the people of Clatsop County.

Potential Sources of Increased Wealth from Land Resources.

Agriculture. Present agricultural land resources of the county, which include nonplowable pasture land, total about 27,000 acres as shown in table 1. The total number of farms as reported by the 1935 agricultural census is 857. Present and potential resources included in agricultural land adaptability classes (table 5) total approximately 51,000 acres. As already pointed out, however, the way in which certain of these lands are to be used will determine the justification for their agricultural development under present economic conditions. The probable number of farms these agricultural resources will support under existing economic conditions is estimated at around 1,200.

Persons seeking to establish farms should consult with the county agricultural agent.

Other potential agricultural resources are represented by the possible development of more than 105,000 acres of cut-over forest land for grazing use plus the estimated maximum carrying capacity of 16,500 animal-units of range livestock.

Apparently the potential resources, if successfully developed, will substantially increase the present agriculture of the county. This possibility might be viewed with a measure of alarm when considered from the standpoint of our present national agricultural policy. However, the pressure of population caused by the heavy influx of farm families to the Northwest States during the past few years has increased the demand for farm lands far in excess of the available supply. Then too, some of the probable future development in this county is likely to take place as a result of adjustments in land use in other parts of the State. To conserve the range resources of vast areas of public lands in eastern Oregon, the public agencies administering these lands have adopted a policy of reducing grazing privileges to livestock operators. This has caused an increased interest in the development of forage grasses for range use on the cut-over lands of western Oregon.

Forest. The forest industry of Clatsop County at present is the most important factor in the economic life of the county and one upon which much of the industrial and municipal activity depends.

According to the 1930 census, 10,000 persons over 10 years of age were gainfully employed in the county. Roughly, 23 percent of these were employed in the forest industries, 11 percent in the fishing industry, 9 percent directly employed in agriculture, and the remainder employed in various trade and service industries.

Although considerable quantities of once-forested land offer possibilities for more intensive use, about 324,000 acres, or slightly over 60 percent of the county, is recognized as being primarily suited to forest use. Therefore, this important resource will continue to have material effect upon the economic life of the county. The way in which forest lands are managed will determine how favorable the effect will be on the future welfare of those concerned. The history of urban population primarily dependent upon timber resources for its support has indicated the close relationship that exists between the urban and rural populations. Liquidation of forests will invariably lead to a heavy decline not only in the rural population but in the urban population as well. The community and other services now enjoyed in the county could not continue to be supported by agriculture and other industries which would be adversely affected by the loss of many of their local markets.

The 1930 census reported 1,454 persons in the county gainfully employed in forestry, exclusive of mills and other processing plants. In 1938, the total log depletion (table 2) was 449 million board feet as compared with 375 million board feet in 1930. Based on this difference, the estimated number of forest workers in 1938 was about 1,800 (irrespective of mill workers). The influence of the depression no doubt is reflected in this difference.

Assuming that fig. 6 accurately portrays the trend of forest resources in the county, by 1945 or shortly thereafter, the corresponding number of persons employable in forestry will have dropped to about 650.

Decline in the number of persons employed in lumber mills is not likely to be so rapid. Several of the mills in the county now obtain their sawlogs on the Columbia River log market and probably will continue to operate for some time regardless of the rate of cut in Clatsop County. A few mills will probably abandon operations upon the completion of the logging of their own timber holdings.

The potential annual forest growth for the county, 177.9 million board feet (table 4), would provide about 710 man years' work in the woods. Additional mill employment would depend upon the amount of forest products processed in the county. Roughly, 120 million board feet of the potential annual growth is estimated to be of the spruce-hemlock species. If a pulp mill were established locally with an annual capacity for this amount, it would provide employment for approximately

585 workers in the mill. An estimated increase from 480 to 2,400 workers would also be required in the woods to harvest and prepare logs for pulp. Should the remainder of the 57.9 million board feet also be processed into lumber within the county, employment would be provided in the saw-mills for an additional 230 workers.

The estimated total number of workers that the potential forest resources of the county will support, according to available processing facilities, is summarized as follows: 20/

	<u>Persons</u>
(1) If all sawlogs were shipped out of the county for processing elsewhere	710
(2) If all but the pulpwood species were milled locally into lumber	940
(3) If all species were processed within the county	3,445

It would appear that the placing of the forest lands under systems of management that will insure the production of future crops of timber is essential to the future economic balance and prosperity of the county. The problem of management of the forest land is rapidly becoming one primarily associated with public ownership as increasingly large areas are passing into county ownership through forfeiture for unpaid taxes and deed by owners.

Management of Tax-Reverted Lands.

Alternatives for the management or disposal of county-owned land include:

- (1) Protection and administration by the county.
- (2) Protection and management through cooperative agreement with the State Board of Forestry, Federal Government, other counties or persons, firms or corporations owning land in the county.
- (3) Transferring of title to the State Board of Forestry for development and management as State forests.
- (4) Sale or gift to the Federal Government, with the approval of the State Board of Forest Conservation for protection and administration as National forest lands.
- (5) Return to private ownership through sale by the county when warranted.

State statutes give the county almost complete jurisdiction over the development, management, or disposal of its land. For example, the county has authority to seed to forage grasses any land acquired through tax foreclosure. It may lease such land for grazing purposes or return it to private ownership. It may develop, protect, and administer county forest land or enter into cooperative agreements with other public or private agencies to perform these functions. It may transfer permanently the title and control of its grazing and forest land to public agencies either State or Federal.

20/ These estimates do not include workers necessary to proper protection and administration of the forest lands.

In complete contrast with the foregoing possibilities, the county may also pursue a policy of returning its land to private ownership as rapidly as possible without thought as to the best use of the land and the probable effect such a policy might have on the general welfare.

It therefore seems evident that the county is in a position to exercise considerable influence on the proper use of all land within the county through the wise handling of the land acquired through tax foreclosure.

Brief consideration might be given to a few of the more important features of the alternatives listed for the management of county-owned land. Under a system of county management of forest land the bulk of the protective and administrative costs would be assumed by the county. These funds would have to come from the taxpayers of the county until such time as the income from the forest lands became sufficient to meet these expenses. Under the circumstances this might prove to be an extremely heavy burden and in line with a program of adjustments in tax expenditures, it would seem desirable that any new expenditures requiring considerable sums of money be viewed with caution.

Ownership or management of tax-reverted land through already established State or Federal agencies would distribute the costs of administration and protection to larger commonwealths. Thus the costs of managing these lands for their best use would be borne by taxing units better able to wait for revenue from these lands. Under State administration, the cost of reforestation, protection, and administration would be deducted from the total income from the land. After these expenses had been paid, 10 percent would be credited to a State forestry development fund and 90 percent would be paid to the county. In the case of National forest land, 25 percent of the gross income is paid to the county in which the land is located. Another 10 percent is set aside for roads and trails within these forests and substantial payments are made from the Federal forest road funds to the State for expenditures on roads within or tributary to National forest areas.

Should the county wish to retain title to the land and a greater measure of control over the administrative policies without being burdened with the lion's share of the cost of protection and administration, it is possible that a satisfactory solution may be reached through a cooperative agreement with State or Federal agencies.

However, regardless of the alternative selected it is essential in the interests of the future economic welfare of the county that tax-reverted land be placed under proper management and control and that all the resources of the county be developed under a unified program in order that the county may accomplish and maintain a well-balanced economy.

Some Safeguards to the Future Development of the County.

If maximum benefits from future development of land resources are to accrue to the county and the general welfare of its people, some means of preventing undesirable development or use of the land should be undertaken. This was recognized by the County Land Use Committee during the County Agricultural Outlook Conference of 1936. The following quotation is taken from the Committee's report:

"In past years farms have been developed on lands unsuited to agricultural purposes. Brush and timber have grown up on land that should have been used for grazing and towns have been promoted and expanded on lands better suited to farms, and through such misuse of land serious social and economic problems have arisen. It is recommended that the Oregon State Planning Board be requested to prepare an agricultural zoning law that will permit the county courts to zone a county into areas suitable for major enterprises and to prohibit land uses which have in the past proved contrary to the best interests of the individual and of the public. Such a zoning should be optional to county authorities rather than be controlled by the State."

State legislation enabling the counties to effect such land use regulation is still required.

Other steps that might be taken to discourage undesirable settlement include: the restricting of public services, such as roads and schools, in nonagricultural and grazing areas; the refusing of agricultural credit to persons attempting development of lands unsuited to agricultural use; the regulation of activities of agencies selling land for farm purposes; and the control or restricting of the use of publicly-owned land to the purposes for which they are best adapted.

On those lands where isolated settlement has already occurred, some program should be worked out for the removal of the present settlers to land better adapted to agricultural use. In view of the relatively small amount of this type of settlement in the county at present, it is possible that through exchange of lands the county may be able to reestablish these settlers on suitable agricultural land, thereby cutting down on the costs of roads and schools and increasing the opportunities for the success of the families affected.

Need for Additional Study

No attempt has been made in this report to delve into the important problems of farm, range, forest, and recreational management of the lands that have been designated as being best suited to these respective uses. Available data are not sufficient to permit a detailed consideration of the many factors that influence the management and economy of these lands.

A further objective of local officials and particularly the County Land Use Committee might well be the collection of additional data required to determine a sound land-management program for the lands within each of the major use classes. In the agricultural class, for example, more facts are necessary to ascertain the most desirable farm organization for the varying soil types found in each area, and the place and probable future of part-time farming in the whole economy of the county. Further study and attention might well be devoted to possibilities of developing farm forestry as a source of supplemental farm income since the majority of the farms contain sizable acreages of forest land that might be profitably used in this way.

The study also points to the need for further inquiry into the public debt and tax structure of the county. What seems particularly urgent is an examination of the way Clatsop County would benefit by broadening the tax base, tapping new sources of revenue, and reorganizing taxing districts. This would necessitate an assumption by the State of a larger financial responsibility for schools, roads, and public assistance.

Clatsop County's own local problem of a heavy port district indebtedness also calls for further study.

